BRITAIN'S LEADING MAGAZINE DEVOTED TO THE AMSTRAD CPC 464, 664 AND 6128

No. 24 SEPTEMBER 1987 £1.25

NOT an official Amstrad publication!!

AMSTRAD ACTION

THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING

ICING SUGAR

On our second birthday we celebrate the success of Alan Sugar's CPCs



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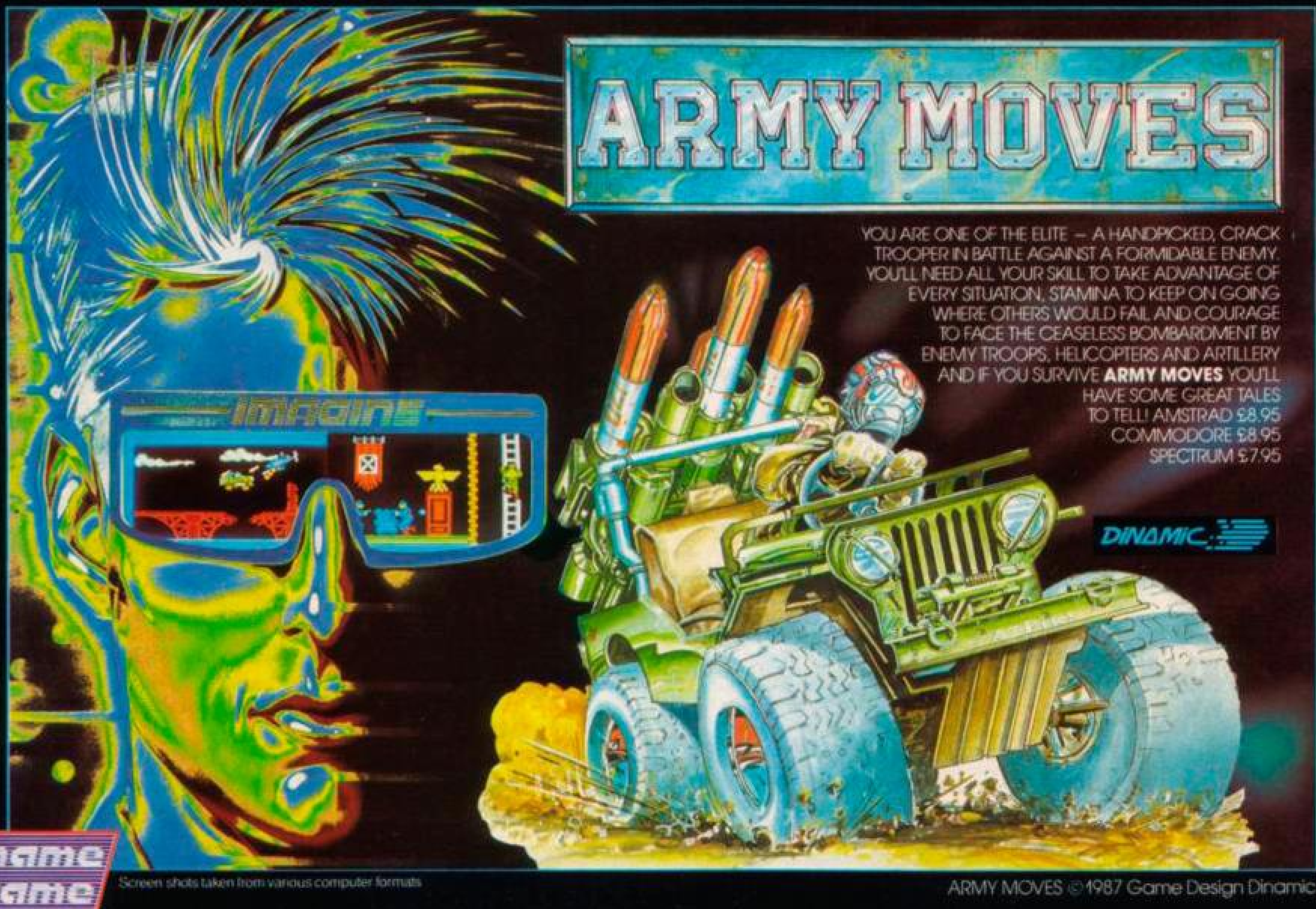


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Screen shots taken from various computer formats

ARMY MOVES © 1987 Game Design Dinamic.

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THE LINE-UP

AMSTRAD ACTION SEPTEMBER 1987

FRONT END

NEWS ● LETTERS



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SOFTWARE ● HARDWARE ● PROGRAMMING

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INTERACTION

CREATED BY YOU AND FOR YOU

WRAPPING UP

THINGS TO BUY ● BYE



Summer celebration

It's hard to believe. This is issue 24; *Amstrad Action* has now been in existence for two years. Life in the computer industry has always progressed at accelerating pace, but it seems like only yesterday that we sprang up out of nothing in sleepy little Somerton.

Future Publishing has grown so quickly that after just two years we publish three successful Amstrad magazines. Of course we aren't stopping there. In the autumn we launch *Advanced Computer Entertainment*, a multi-machine magazine that will revolutionize the world of computer mags.

We'd be nowhere without those amazing machines, the CPCs – and their mastermind Alan Sugar. As 664 owners will testify, he's not exactly renowned for his caring attitude to users, but he's certainly made life interesting over the past two years, and we never know how he'll surprise us next.

Things are changing here on *AA* as well. Jim Nagel, our hard-working production editor, is giving up commuting, and leaving to work on his local paper in Glastonbury. We wish him all the best and confidently predict that the ol' *Gaz* will soon have a thriving comms network. There will be a new writer on *AA* next month – a lucky soul plucked from thousands of eager applicants. Watch this space and we might even print a picture of him.

On the art side we say farewell to Trevor – but he's not going far, just removing his *AA* hat and putting on that of art editor on *ACE*. Ollie Alderton will fill the shoes of the great Gilham. How will Toot react to this change of personnel?

So lie back in the sun, with the waves gently lapping at the shore, and try not to get this copy of *AA* covered in sand, salt water or seagull droppings.

Bob

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REACTION

You get the last word on the previous issue ... and the first words of this one. Keep those cards'n'letters comin' in! Send to: Reaction, 4 Queen Street, Bath, BA1 1EJ. You're welcome to use electronic mail – 84:txt152 on Telecom Gold or 045 874 011 on Micronet – but do mention "Reaction" as well as your own name and Earth address.

We cannot possibly reply individually, so please don't be offended: what we are busy writing is the next issue of your favourite magazine. If you have problems with subscriptions or mail-order, please write direct to those departments, which remain at the Old Barn, Somerton.

By any other name ...

"*Amstrad Action*" – what a fab name for an Amstrad mag. Curiosity is killing me. Please tell me who thought of this brill name!

Richard Lombard
Chingford, London

Hard to remember two years later. But it was one of Chris Anderson, Bob Wade or Trevor Gilham, because that was the whole of Future Publishing at the time (we are now nearing 40). Chris seems to think it was one of his eureka-in-the-bath inspirations. Rejects, you'll be glad to know, included Am-sandwich, Slamstrad and Whamstrad! Bob was also quick not to adopt the title "Fabulous Amstrad Software Tester."

Hot & cold type-ins

Get the praise and grovelling over with first.

Excellent magazine, layout terrific, front cover marvellous, type-ins terrific and Action Test superb.

Okay, that'll do. What about the point of the letter?

Why does it take so long to get type-ins published? I submitted one back in Feb and haven't heard any more since. Perhaps you could run a feature on "All you ever wanted to know about a type-in" from when you receive it until it is published.

Come on, all you really want to know is what they all do in the Bath.

I wish you would stop interrupting me.

"Keep it short," that's what they said. So stop now.

All right, but what about it, people? Give us an insight into what happens down there.

Derek Thow and **AN Other**
Newport, Gwent

We get an average of 1,234,567 type-ins every month. There are obviously not enough pages to print them all, nor would you (not even you) be interested in them all. Technical editor Richard p Monteiro has a quick look at each one and either uses it or stashes it in his "to be returned" tray – which at the moment is a cardboard bathtub as high as his spiky black hair, 1.23 cubic yards. We have no clerical staff at the new editorial office in Bath, so Richard has only a few days at the beginning of each month – if he's going to write your magazine – to swim the flood.

Since you float the question, we'll say it: Type-ins received from now on will be returned only if you enclose a self-addressed stamped envelope or label – otherwise we'll assume you kept a copy (which you should do anyway), and it's down the electronic drain.

We've had enough on Mandelbrot, bingo, light cycles and VAT reckoners. But original type-ins are still always welcome.

City mystery

For the past few months I have been looking up Amstrad's share price. In June it dropped from 208p to 162p. As this is quite a substantial fall, I would like to know if you have any ideas of why it happened.

Stephen Parkinson
London N16

In light of Mr Alan Sugar's recent castigations of the City, which you may have read in the press, perhaps the City was repaying the compliment. The main reason for the June drop was probably the conflicting reports on how well the Amstrad PC1512 was doing. Then the 1640 was launched in the US before here.

But the workings of the City are one of life's great mysteries; we certainly don't understand them. Read Mike Scialom's "Doodlebugs" column in issue 12 of our sister magazine PC Plus *for wiser waffle on the subject.*

Thanks, Sue!

Thank you for the returned *Gauntlet* disk, restored from that terrible poke from a certain Gorilla. I had lost hope and thought we'd spent £14 on a disk we'd have to erase and use as a blank.

It's nice that somebody looks after customers, not like some other firms in the computer industry. We get nothing but hassle from them. I don't know whether saying "I don't think I'll ever read your great mag again" at the end of my first letter helped, but I'll be one of your greatest readers from now on.

Philip George
Northfield, Birmingham

■ I am thanking Sue Taylor (of *AA*'s mail-order office at Somerton) for her prompt action. I received the book *The Working Amstrad* only one week after ordering it!

Gareth Noyce
Southampton



"THIS'LL CONFUSE 'EM IN THE FUTURE..."

O immortality!

Quite a few people out there are science-fiction freaks. Has anybody read the hardback novel *The Cybernetic Samurai* by Victor Milan? I'll describe the scene: A Japanese is clad in a blue kimono decorated with a white flower-petal print. The sleeves are drawn tight and he has a black leather belt around his waist. On his head is a very futuristic battle helmet. His concentration is on his computer, the monitor of which he is almost caressing. This is the climax. The computer is an Amstrad 464, no less, complete with colour VDU. Of course, the name has been covered with silver foil, as has the datacorder, but the machine is still the same.

AM Sugar, if you are reading this magazine (I am sure you are), you can never cease production now. We of the 464 are immortal.

Simon Warford
London SE1

Hyperbole: axes grind

Psst – wanna make some money?

Bonzo Super Meddler is "guaranteed to transfer more games than any other program. The first person to find a more successful program will receive thrice their money back!!" (Nemesis ad, *AA* 23, page 23).

Siren's *Discovery Plus* (same issue, page 35) is "guaranteed to transfer more games than any other program (the first person who can find a more successful program will receive twice his money back)."

Now I am going to buy *Discovery Plus* and say that *Super Meddler* is more successful. When I have got my money off them I will buy *Super Meddler* and say that *Discovery Plus* is more successful. That should leave me with about £38 profit.

People complain about the hype on games, but what about adverts like these two? All in all, I think it's rather stupid.

Paul Page
Solihull, W Midlands

The Nemesis ad is quoting Siren's, of course, offering to outdo. (Nemesis seems to prefer solecism to Siren's seeming sexism.)

Going on-line

I am thinking of getting a modem. I want to get onto Prestel for news, downloading games etc. What do I need? I know that you need a phone line, also an RS232 and special package. Is there any package you can buy that provides everything ready? How much does it cost for an hour of Prestel? My dad says it is expensive.

Simon Matthews
Scarborough, N Yorks

If you buy a year's subscription for £65, Micronet gives you a Prism modem 2000. (Micronet is a subsection of Prestel that, confusingly, includes all the rest.) This modem has only the 1200/75 trans-



Birthday greetings, *Amstrad Action* ... Bob Wade is the king upon a throne in Queen Street with a crown. ...

mission speed, which is fine for viewdata services like Prestel but not for some of the free bulletin-boards that operate on 300/300.

You also need software and a serial interface (the RS232), which plugs in between your computer and the modem. We use the Commstar rom from Pace Micro Technology, (0274) 48 8211, which produces it and interface in one package for £60 including vat and 5p change. The same gear is sold also under the Amstrad badge. Or Pace's Linnet modem, with auto-dial and many more features than the Micronet one, is currently on offer for £160 including interface and Commstar. Some modem packages throw in a registration on Prestel or Telecom Gold.

And don't forget the lead to connect modem to interface, often the source of hassles. The correct one should be supplied with the modem.

If you confine yourself to evenings and weekends, and avoid charged frames (which are always clearly marked), there are no further Prestel costs. You dial a local number and pay only for telephone time: about 50 pence an hour at cheap time.

Show off

Nice to see you all at the Amstrad show this month, but on the whole, what a disappointment for the CPC owner! Apart from cheap disks and the two software stands, just about everything was angled at the PC or PCW. Even products that could have applied, like modems and digitizers, were displayed *only* for the business machines. That's the last Database show that I'm bothering with – roll on the first *Amstrad Action* show!

Jim Palmer
Christchurch, Dorset

Richard Monteiro, however, found a surprising amount of software for the CPC machines – albeit mostly serious stuff rather than games. See his report in this month's Amscene.

the Space Age look

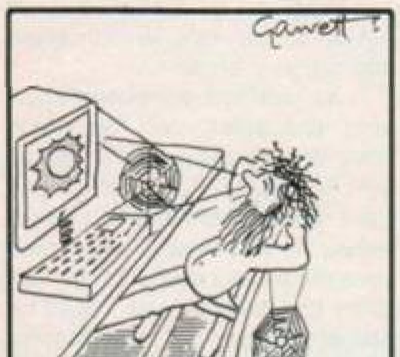
Marketing man

I have an idea to solve two of the biggest problems of the software industry: gross overpricing and pirating. If companies could be persuaded to place advertisements on games – on, for example, the title screen and the high-score table – they could pay for the privilege. This would ease the prices of software. Also pirating would be less of a problem, because the companies would want the software to spread so that more people would see their ad.

However, it would be necessary to ensure that game development itself was independent from the advertiser. For example, a shoot-em-up should not be corrupted by a washing-up-liquid manufacturer into a "squirt the dirt off the plate" game. Tobacco and drink advertisements would have to be banned because of the age group of games players.

Who knows? It may even promote good games, since an advertiser would want to sponsor only games that sell well.

David Turnbull
Bourne End, Bucks



"HE'S HOOKED ON THOSE MANDELBROT SETS..."

Guinness, anyone?

I would like to tell Snoopy & Woodstock (Reaction 23) that I hold the record for the most originals: 279. No lie.

Jonathan Lee
Slade Green, Kent

■ I rushed to my room to count my games collection. I have 240 tapes and 38 disks. All are originals.

G Jones
Whitstable, Kent

Joining the stack

I am a fairly new reader of *AA* and only just starting on the steep slopes of computing, being a bit long in the tooth. Reading the letter from Niall Dunne (Reaction 23), I would like to add my name to that list for a beginners' series on assembly language.

BJ Lewis
Brynmawr, Gwent

Short decade

Does anyone know where I can get a copy of *Street Machine*? This was reviewed in several mags about a decade ago, but seems to be completely unobtainable. I really fancy a copy – it reminds me of a game I got absolutely addicted to a few years ago called *Rally-Cross*. This of course was an arcade game, which brings me to my second point.

Is it possible to obtain many of these classic arcade games for the Amstrad? I am particularly interested in *Space Invaders, Galaxians, Firebirds, Moon Dust* (I think), *Astro Fighter*, the abovementioned *Rallycross*, and one which was called something like *Defender*, where wiggly lines came down the screen towards your bases, which you shot by moving a large ball around.

Roger Fenton
Muswell Hill, London
Telecom Gold 73:tip011

We reviewed Street Machine *in AA 17 – not exactly a decade ago! You can still get it direct from the programmer, Software Invasion, at 54 Sycamore Rd, London, SW19 4TP; phone 01-947 8876.*

Amstrad versions of most of your games came out, but you're more likely these days to find them second-hand than in the shops. Your last one sounds like Missile Command, *which hasn't been converted, as far as we know.*

Wight art

Here's a printout of one of the pictures I drew with *Melbourne Draw*.

Justin Mason
Shanklin,
Isle of Wight



Anti-anti-e-mail

It's a shame there's antipathy toward electronic mail. It can be very useful if utilized fully. I find Telecom Gold rather unfriendly to the user, and with the mooted price increase it looks worse. Prestel, though a touch unreliable and without quite as many trimmings as Gold, is a lot easier to use – although I could well be prejudiced towards it, since I use it a lot.

Matthew Platts (Maf)
Gold 74:MIK688

One of my moans is the difficulty of finding out people's electronic-mailbox numbers. Why don't they print it on their notepaper? The system is useful only insofar as you can contact other people. Who can afford to use Gold's on-line directory, even at the old charges? Since Gold is owned by British Telecom, why can't e-mail numbers be printed alongside ordinary addresses in phone-books?

Master duff

I recently bought *Jackle & Wide* from a computer shop but found it was riddled with errors and would not load. My CPC 464 is not at fault. The shop is not in my home town; by bus I would have to get up early in the morning and spend six hours there – just for one tape! Does Mastertronic replace faulty games?

Could I use the Mirage Imager Mk III to make back-up copies of my games?

Andrew semi-Huff
Tain, Ross-shire

I should think Mastertronic would oblige. The address (again) is 8 Paul St, London EC2A 4JH.

Yes.

Back, aliens!

Aid in the battle against disk-based *Aliens*: I have experienced the problem that P Winter describes (Reaction 23). The answer is to send the disk back to Electric Dreams for replacement.

Ian Black
Petworth, W Sussex

Baxterburg concerto

Rob Baxter (Reaction 20) offered for a £2 copying fee his transcriptions of all six of Bach's *Brandenburg Concertos*. As I am a string player, curiosity got the better of me and I sent my £2.

What I got back has amazed me – obviously an Amstrad transcription could never sound like the real thing, but some of the effects are so clever that I have chortled with delight and played them repeatedly (as well as my tapes recorded by the virtuosi of England). If Bach had had no access to other instruments, if he

Toot's wardrobe by Lee Chapman, Ossett, W Yorks



the Western look

had an Amstrad and an *Advanced Music System*, and if he had spent less time practising on his spinster in the attic, I am sure this is what he would have produced.

My thanks publicly to Mr Baxter.

GW Duell
Scarborough

We'll keep your original writing on file in case Johann Seb's legitimate descendants send a writ.

A poke for daddy

Please do not send our Daddy any more games. He sits up all night and won't read us a bedtime story when he is trying to poke his latest game. Also, when he is at the computer he won't let us play with our fun-school games. We are two computer orphans, aged 2½ and 5 months. Mummy misses Daddy too.

Emma and Katherine Hodges
Barnet, Herts

Very good handwriting for a two-year-old.

Users, unite!

I am fed up with the constant battle that goes on between Amstrad owners and the owners of just about every other machine on the market, each saying their machine is the greatest ever made.

One day I will move onto a 16-bit machine, but I will keep my humble little Arnold (violins, please) as it has given me pleasure beyond bounds over these last two and a half years. There should be no battling, only consensus, between the various user groups. How else can we get a system that is compatible across all users. If there are any CBM, Atari or Sinclair users reading *Amstrad Action*, I would like to hear from them.

I challenge the computer manufacturers of the world to unite and produce a range of machines that are compatible with each other and – unlike IBM clones – are fully compatible on software. If the Japanese can try it with the fated MSX range, other world manufacturers can do the same. So get to it!

John Gigney
14 Greentrees Avenue
Cold Norton, Chelmsford
Essex, CM3 6JA
☎ (0621) 82 8396

AA über alles

I've been a loyal reader of your mag since issue 2. Two years ago I founded the German Computer Service in Stuttgart. We're now offering help to the British readers of the best Amstrad mag we know. If there's anyone in the UK with any problems or tips, contact us.



"- WELL, THAT'S THE MOST REALISTIC ARTIST PROG YET!"

We're really sorry about the "surrending" of *Amtix*, which was brill too.

We think the best CPC game available now is *Bob Winner* and are very disappointed about *The Pawn* (its graphics – we expected more).

Kai-Uwe Herthneck
Ostracherstr. 4
7000 Stuttgart 80
West Germany

Singapore's second

It's very frustrating to wait to have the letter I sent you published. I thought it was well written with an appraisal of *AA* and *Amtix*. I certainly hope to see my second letter published. Moreover, I'm sure you don't get too many letters from Southeast Asia.

David Wong
Singapore

Wight, David, we don't. But we do get several hundred altogether every month and there just ain't room. But thanks for writing – it is encouraging to know who our readers are.

Swallowed by the sea

AA 20's back page was an advert for *Army Moves* by Ocean. I'm not buying that, I thought, after buying many Ocean games that should have been dumped in the sea. Then pages 2 and 3 was another of those spreads advertising four games from Imagine: *Mag Max* (excellent), *Army Moves*, ... Hang on, that's an Ocean game. Matt C of Aintree tells me Ocean is owned by Imagine. Is this true?

Andy Higham
Liverpool

As true as saying the Atlantic is part of the Avon.



the Indian look

Immortal scheme

There has been much discourse in all the magazines as to the future of the CPCs. The general consensus has been that at least software support is healthy enough due to the large user base – over a million at home. Sales overseas, while smaller than Mr Sugar would like, are also healthy. There seems little point in discontinuing a successful product. Or so the argument goes.

History is not on the side of this argument. The ZX80 and ZX81 can be seen only in second-hand shops these days. What happened when the Spectrum was launched? What happened to the ZX81's software? So much for a large user base ensuring the future.

CPC software is currently available. Where? It seems only current, mainly top-selling, games. More budget games are sold than any other – an endorsement for the pricing policy of software houses. Serious software and the more complex games are next to unavailable; software more than two months old is extinct. Mail-order is an answer – the only one in the case of most serious software – but it is a pain in the proverbial.

No matter what the size of the user base, Amstrad will discontinue the CPCs eventually.



What then for the poor old user? The local software merchants appear to believe, judging from the size of their stock, that we will all rush out and buy Atari STs.

The software houses will terminate their support for the CPC – eventually. How much is actually produced for *us* anyway? Most is a byproduct of a Spectrum or C16 or ST original, and much of it lives *down* rather than up to the Amstrad.

So what is the answer? A national user group. Groan, moan, hasn't that been tried? Yes there is the Official Amstrad Users Club. I am not a member. Neither, judging by the degree of advertising, are most Amstrad owners in the UK. This "club" is not really dedicated to and run by members and enthusiasts. It has been a commercial venture from start to finish, started by Amstrad (good idea) and then sold down the river. Is this the dedication to users we must rely on?

The proposal is simple, the mechanics more complex, but, as a start, I would be interested in hearing from others who share my views. A user group founded by users for other users, on a national scale, is the only real method of sustaining a healthy interest in the machines. If we are cast adrift by Amstrad and the software houses we can carry on: writing software for use by others in the group – and I'm sure we can put the commercial establishment to shame in terms of quality, presentation and documentation.

Is there anyone out there, or am I talking to the wall?

Steve Martin
14 James Street
Gillingham, Kent, ME7 1DQ
☎ (0634) 52166

What's this magazine if not a user forum?

Your idea could take a leaf from Acorn's tree: the venerable BBC model B has been superseded, leaving its Beebug national user group with a similar role to what you suggest for Amstrad-land. (And by the way, more CPCs are probably being sold overseas than at home.)

No mods in Oz

I recently decided to get a modulator and power source for my 6128. The green screen is great for typing out letters but detracts from games. At Billy Gyuatts, which is about the only place to get software or hardware, I was very disappointed to find they are not made in Australia any more and that you need a different one for the 6128 as compared to the 464. Could you please tell me where I could order one from England?

I would also like to ask the big software companies how they think we teenagers get around $A50 for a good game like *Ikari Warriors*! The prices are ridiculous!

Stephen Path(Thunder Down Under)
Neerim North, Victoria

The 6128 power supply would suit the 464 as well – it would just have a spare disk-drive socket. The only one on the market here is from Amstrad plc, Brentwood, Essex, CM14 4EF.

Since Ikari Warriors *on disk costs £15 here and the exchange rate is 2.27, an Oz price of $34 would be more like it. $15 for postage? You could do better by mail-order.*

AA gets mountains more letters than we have room to print. So now that there's a classified-ad section, if you want to advertise a user club you're setting up, it'll have to go there.



the Hawaiian look

Helpline

Where eager Amstrad experts volunteer aid to fellow readers having problems

■ If you too feel helpful, just send us your name, address, phone number (say so if you don't want it to be printed) and subject on which you want to help. Please write on a postcard or the back of a stuck-down envelope to simplify administration here in the office. Send to: **Helpline, *Amstrad Action*, 4 Queen Street, Bath, BA1 1EJ.**

■ If you are asking for help, make direct contact with the appropriate Helpliner – don't pester your usually-patient (but pressed) editor. By post, you must include a self-addressed stamped envelope for the reply; otherwise you won't get one. And if you telephone, stick to socially acceptable hours!

Gauntlet, Aliens, Hacker 1, Green Beret, Short Circuit, Lightforce, Knight-tyme, Zub, Xcel, Bomb Jack 1, Apprentice, Thrust, Saboteur, 3D Boxing (Amsoft), *Kane, Oh Mummy*. Good at programs that give lists of things, eg telephone numbers, games, stocks. – 464
Abdul ("Billy") Qureshi, 16 Truggers, Handcross, Haywards Heath, W Sussex, RH17 6DQ ☏ (0444) 40 0548

Amaurote, Kane, Hyperbowl, Turbo Esprit, Speed King, Starstrike II, Yie-ar Kung Fu, Thrust 1, Tomahawk, Druid, Batman, Knight Tyme, Thanatos, Harvey Headbanger
Jason Burns, 212 Victoria Rd, Higher St Budeaux, Plymouth, PL5 2DH

Basic, machine-code, hardware, programming roms. Peripherals available for use: printers, video digitizers, rom blowers, Multifaces
Mark Spencer, SIG Enterprises, room 2, 101 Oxspring Bank, Sheffield, S5 8NR ☏ (0742) 31 4053

Protext, Prospell, Utopia, roms, Basic, DMP 2000 printer: can supply screendumps of games or programs
Andrew Perry, 5 Uplowman Road, Tiverton, Devon, EX16 4LU ☏ (0884) 25 3414

Mini Office 2, Melbourne Draw, Music System, tape-to-tape, DMP 2000, *Grand Prix Simulator, Chronos, Starglider, Yie-ar Kung Fu, Colony, Destructo, Radzone, Kane, Dynamite Dan, Rocky Horror Show* – and many other games, software companies' addresses and general help on the 464
Helen Saunders, 14 Elm Ave, Beeston, Nottingham, NG90 1BU

Soccer Boss, Starquake, Thrust, Rebelstar, Ikari Warrior, Hyperbowl, Football Manager, Feud, Harrier Attack, Kane, Radzone, Ghouls, Bruce Lee, Manic Miner, Star Commando, Bump Set Spike, World Series Baseball, Raid, Don't Panic, Grand Prix Simulator, Hunter Killer, Fighter Pilot
Craig Thomson ☏ Motherwell, Scotland (0698) 51177

any problems or tips (founded German Computer Service two years ago) including CPM, transferring programs from other computers, hacking, deprotecting games (for user backups), tape-disk, disk-disk, disk-tape, making programs compatible over all CPCs, pokes, Basic errors and problems. *Hacker 1, Cauldron 1 and 2, Theatre Europe, Bruce Lee, Thanatos*
Kai Herthneck, Ostracherstr. 4, 7000 Stuttgart 80, W Germany ☏ (+711) 72 3357

Feud, Jack the Nipper, Knight Tyme, Message from Andromeda, Revolution, Street Hawk, Saboteur, Starstrike II, Thrust II, 180
Paul Selvidge, 15 Whitcombe Close, Lordswood, Chatham, Kent, ME5 8RL ☏ (0634) 62978 except Sundays

Head over Heels, Batman, Druid, Ralli II, Green Beret, DT's Decathlon, Lightforce, Yie-ar Kung Fu, Who Dares Wins II, Bruce Lee, Ghosts'n'Goblins, Chuckie Egg, Chronos, Moon Cresta, Mindshadow; also *Batman, Druid* using locations from *AA* maps
Darren Roofe, Lyndhurst, Station Road, Middle Drove, Wisbech, Cambridgeshire, PE13 8SP ☏ (0945 73) 276

pokes, tips, maps, tape-disk, disk-disk, tape-tape, debugging, Basic programming, will type in listings
Mark Hillier, 121 Eliot Bank, Forest Hill, London, SE23 8XD ☏ 01-291 6390

Laser Basic
Trevor Prince, 46 Hillport Ave, Porthill, Newcastle, Staffs, ST5 8JZ

Knight Tyme, Spellbound, Pipeline 2, Harvey Headbanger, Alien Highway 2, The Apprentice, International Rugby, Raid, Mutant Monty, Donkey Kong, Sweevo's World, American Football, Jet-boot Jack, Blagger
Roger Murphy, 6 Glenageary Woods, Glenageary, Co Dublin ☏ (0001) 80 6858

Mini-Office II
Craig Paterson, Orchard Mews, Village Road, Gt Barrow, Chester, CH3 7JH ☏ (0829) 40787

adventure programming
Simon Forrester (age 13), **15 Halcroft Rise, Wigston Magna, Leicester, LE8 2HS**

hints, pokes, tips on *Rebelstar, Back to Reality, Apprentice, Knight Tyme, Spellbound, Finders Keepers, Equinox, Get Dexter, Zoids, Sacred Armour of Antiriad, Sorcery Plus, Sentinel, Deactivators* (to level 4), *Aliens, Tau Ceti, Starstrike II, Nexus, Mercenary*
Steve McClay, 32 Lycett Rd, Wallasey, Merseyside, L44 2DA

Basic programming and guidance on routines
Stephen McCormick, 27 Coshneuk Road, Millerston, Glasgow, G33 6JH

writing programs, machine-code, solving problems, *GAC* and mapping adventures, testing adventures and other forms of program, teaching programming, graphics, sound – and almost anything else
IR Murphy (aka *Smurf the Warlock*), **25 Craven St, Accrington, Lancashire, BB5 0SE**

tape to disk, disk to disk, disk to tape, *Art Studio, Mini Office 2*, DMP 2000 – CPC 6128
David Marek, 2 Camus Road West, Edinburgh, EH10 6RB

programming in Basic and machine-code, *Knight Tyme*
Phil Stockdale, Thorndale, 18 Shire Rd, S Ferriby, S Humberside, DN18 6JG ☏ (0652) 34363

chess programs, *Tasword 6128, Print Master, Toolkit* (Beebugsoft), *Advanced Art Studio, Mini-Office II, Advanced Music System*, disk utilities (and writing them yourself), RSXs and firmware calls
Alastair Scott, 30 Talbot St, Grangemouth, Stirlingshire, FK3 8HU

Get Dexter, Robin Hood, Terra Cognita, Star Firebirds, Trailblazer, Fighting Warrior, Druid, Beachhead, Tempest, Ghosts'n'Goblins, Dynamite Dan II, Match Day, Knight Lore, Dragon's Gold, Thrust, Scooby Doo, Avenger, Bruce Lee, Match Point, Starglider, Classic Axiens, Green Beret, Frank Bruno's Boxing, Killapede, Who Dares Wins II, Sorcery, Seabase Delta, Revolution, Thing on a Spring, Starstrike II, Bounder, Splat, Xeno, World Series Baseball, Defend or Die, Manic Miner, Pingpong, Football Manager, Last V8, 180, The Apprentice, Finders Keepers, Pipeline II, Shockway Rider, Locomotion, Zub, Kane, Conquest, Knight Tyme, Radzone, Dynamite Dan, Nick Faldo's Golf, Everyone's a Wally
John Lawless jnr, 75 Leix Rd, Cabra, Dublin 7

programming in Basic and machine-code – 464
Michael Ewan, Hall Bank, New Hutton, Kendal, Cumbria, LA8 0AU

Adventure writing –*GAC, Quill* etc. Also play-testing and evaluation, program listings etc. Anything at all to do with writing adventures!
Pat Winstanley, 13 Hollington Way, Wigan, WN3 6LS

Amaurote, Feud, Sorcery, Knight Tyme, Spellbound, Gauntlet, Space Harrier, Ikari Warriors, Ghosts'n'Goblins, Bombjack 1, Commando and all Elite games, *Batman, Frankie, Gillan's Gold*, most Ocean games, *Gunfright, Alien 8, Thrust 1, Flyspy, Molecule Man, Caves of Doom, Spindizzy*. Adventures: *Hobbit, Jewels of Babylon, Worm in Paradise*. Has typed in all the type-ins
Frankie, 103 Strathaven Road, Lesmahagow, Lanarkshire, ML11 0DN

Batman, Ikari Warriors, Jack the Nipper, Rambo
Si Carter, 6 Laurel Grove, Hoole, Chester, CH2 3HU

Message from Andromeda, Terra Cognita, Thrust, Mr Freeze, Spellbound
Darren Jackson, 85 Fitzherbert St, Warrington, Cheshire, WA2 7PN

Using and programming CPM, Basic, graphics, programming adventure games, data or program security methods – 6128
Cormac McGaughey, 1 Glenaritt Rd, Cushendall, Co Antrim, BT44 0QY

Basic, Forth, assembler, firmware, graphics, digital electronics – 664
Tim Mo, 180 Brookland Terrace, New York, North Shields, Tyne and Wear, NE29 8EP

all CPC chess programs, *Tasword 6128*, DMP 2000, *Printmaster, Printer Pac II*, Beebugsoft *Toolkit*, programming with RSX commands
Alastair Scott, Mylne's Court, Lawnmarket, Edinburgh, EH1 2PF

tape-to-disk transfer, infinite lives, maps, adventure solutions, French games, Amstrad program guide
Phil Maxfield, 40 the Brow, Brecks, Rotherham, S Yorks, S65 3HP ☏ (0709) 54 5055

Basic programming (mainly utilities but some games)
Mark Bonshor, 4 Stoop Lane, Quorn, nr Loughborough, Leics, LE12 8BU

Basic programming, useful calls and pokes, hacking, tape-to-disk, *Melbourne Draw*, supersprites, repairing joysticks, tape loading, Basic scrolling messages, sprites in border, ripping out title pages, music and effects from games
Carl Harker, 38 Lyndon Ave, Blackfen, Sidcup, Kent, DA15 8RJ

Basic, Logo, Laser Basic, CPM, Fig-Forth, simple machine-code, *GAC*, disk or tape loading, tape-to-disk
Edward Reid, 157 Ladyloan Ave, Drumchapel, Glasgow, G15 8RX

bridge clubs – scoring on *Mitchells*, aggregate and Howells, name and address lists, library books, master points (calculation and certificates) – all CPCs using CPM for *Masterfile* and *Superscript*
FB Brighton, 30 Ranmoor View, 410 Fulwood Rd, Sheffield, S10 3GG ☏ (0742) 30 7555

Basic programming, printing problems (on DMP 2000), loads of games, pokes, maps, type-ins, machine-code
Guy Sanders, 270 Willesden Lane, London, NW2

any aspect of writing a fanzine
Richard Hannah, 48 James St, Helensburgh, Strathclyde, G84 8XG ☏ (0436) 3310

Basic, sound, graphics (animation and collision detection), interrupts, tape and disk filing, printer commands, *Protext* (will print listings for 35p + 3p page + sae; screen dumps for 75p + sae; phone for details) – 464
Gavin Manning, 20 Windsor Rd, Wanstead, London, E11 3QU ☏ 01-989 8843

C&G *747*, HNC Computer Studies, serious users
John Wharram, 61 Silver Crescent, Chiswick, London, W4 5SF

machine-code, CPM, hacking – 6128
Tony Hoyle, 11 Dorset Rd, St Annes, Lancs, FY8 2ED ☏ (0253) 72 7368

Basic, machine-code, especially graphics – 464
PJ Higginson, 194 Turton Rd, Bradshaw, Bolton, Lancs, BL2 3EE ☏ (0204) 58907

Basic, some machine-code (will print listings for 50p + 5p page + sae) – 6128
Andrew Smith, 5 Station Rd, Foggathorpe, nr Selby, N Yorks, YO8 7PU ☏ (0757 85) 540

Basic, simple machine-code
Duncan Ellis, 6 Clifton Terrace, Ilkley, W Yorks, LS29 8ED

Laser games, assemblers, firmware
Martin Packer, 393 Whitton Ave East, Greenford, Midx, UB6 0JU ☏ 01-935 6600 x4283 or 01-423 3452

Spellbound, Eidolon, Dragon's Lair
Scott Miller, 7 Inverness St, Drumoyne, Glasgow, G51 4EW

CPM, star, DMP 2000, Cobol, Nevada Cobol, Turbo Pascal, Locomotive Basic, colours from Basic, disk to tape, disk to disk, *Tasprint*, databases – 464
Allen Reavie, 22 Mourneview St, Portadown, N. Ireland, BT62 3AW

machine-code programming
Jim Tripp, 24 Orchid Close, Taunton, Somerset ☏ (0823) 56492 (before 5pm)

machine-code, Basic, Logo, CPM, graphics, sound, most CPC games
PJ Cook, Prestel 011 110 750

research and development of games ideas, copyright, production, marketing and promotion, and (on occasion) financial backing
Jeven, Tigress Designs Ltd, 25 Burmester Rd, London SW17 0JL ☏ 01-946 7870

tape loading, using CPM, Minerva database, *Tasword, Tasspell 6128, Art Studio, Tascopy, Multiface 2, WordStar, AMX Pagemaker, Planit, Discovery Plus*
Mr R Cope, 171 Honiton Road, Exeter, EX1 3EP

programming (Basic, some machine-code)
Jeffrey Hunt, 2 Deweys Way, Gillingham, Dorset, SP8 4BW

Won't you pleeeeease pleeeease help meee?



AMSCENE

Two years on and going strong

This month is the second anniversary of *Amstrad Action's* creation. It's also three years since the CPC 464 appeared on the computer scene. To celebrate these twin events we're taking a look back at a happy association of mag and machine and offering you the chance to win some unique *AA* memorabilia.

In case any of you had forgotten what an exciting two years it's been, or only recently bought a CPC, then here's a look back at the events.

October 1985: *Amstrad Action* arrived in newsagents all over the country. The main news story was the arrival of the CPC 6128 and PCW 8256 computers, and the death of the CPC 664 after just five months' production. This trio of announcements had far-reaching repercussions – most seriously for 664 owners who felt betrayed by Amstrad and made their feelings known in our letters pages.



November 1985: a full review of the PCW 8256 was a sign of great things to come. "Biz Progs" made its second and final appearance before being replaced by the much more sensibly named Serious Software.

December 1985: things were really starting to happen by issue 3 – the first Amstrad computer show, the first type-ins and an exclusive preview of *Elite*. By now *AA* had really found its feet – and so had Amstrad, announcing profits of over £20m.

Christmas 1985: our Christmas issue looked a little different because it had a cassette slapped on the cover containing two games. Eager readers could hardly believe their eyes. It set a trend that many other publishers have followed. In the news was plenty of controversy about whether there was or wasn't a shortage of 3-inch disks.

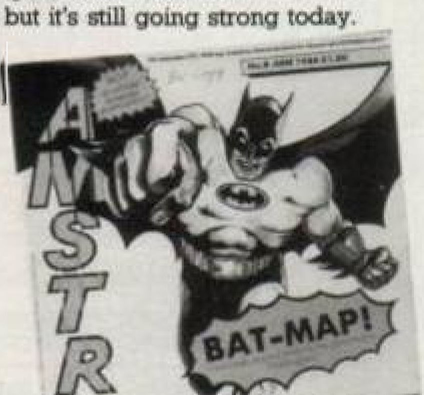
February 1986: no surprise as *Elite* scoops the coveted Mastergame award. The arrival of a now-legendary hero – Sugarman. Rumours were rife of the impending launch of an IBM-compatible machine, but as usual Amstrad wasn't commenting.

March 1986: the second Amstrad show in three months had us all tired out but not too tired to play the Mastergame *Spindizzy*, the first original classic on the CPCs.

April 1986: Amstrad's half-yearly profits went through the roof again, over £27m. Our feature on educational software concluded that there wasn't a lot around – and, sadly, that's still the case in 1987.

May 1986: What? Another cover cassette! This time with a free game and demos on it. The cross-Channel software invasion began with the Mastergame *Get Dexter*. The PCW 8512 appeared and was promptly nicknamed the Fat Joyce.

June 1986: the *Batman* playing guide to end all playing guides (until *Head over Heels*, that is) was sweated and slaved over, but what a great result! The big news was Amstrad's purchase of Sinclair for a pathetic £5m. This prompted questions about the 464's future – but it's still going strong today.



July 1986: the IBM-compatible rumour was stronger than ever, but Amstrad continued to be noncommittal. Yet another staggering playing guide (and late nights), this time for *Spindizzy*.

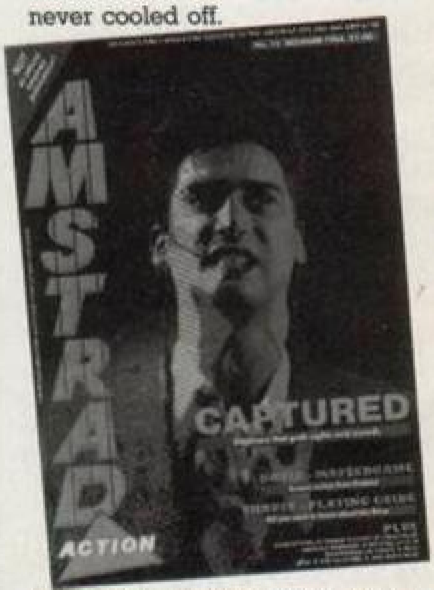
August 1986: *Knight Tyme* was the first budget Mastergame and showed the shape of the software market to come on the CPCs.

September 1986: our first anniversary and the last appearance of an administrative nightmare – hi-score. It was also goodbye to the PCW reviews as our sister magazines *8000 Plus* and *PC Plus* were launched.

October 1986: a new image as we concentrated on photographic covers, and did a special on music.

November 1986: the *Art Studio* made us all look at our CPCs in a new way. So did the Spectrum Plus 2: the CPC market was under threat for the second time.

December 1986: one of our best covers to date: RpM found himself on the staff and digitized. Hot Tips made its first showing and has never cooled off.



Christmas 1986: another cover cassette, this time with utilities and type-ins from readers as well as the game demos. *Gauntlet* was Mastergame and settled down for a long, long stay in the charts.

February 1987: the *Pagemaker* cover and review were only the start of a still-running saga.

March 1987: new features piled in – Helpline, Hackers Only, Rear View and a revamp for good old Action Test.

April 1987: farewell to one of our competitors, *Amtix*; that mag finally gave up an unequal struggle. We even told you how to set up in the software business.

May 1987: customizing your CPC proved to be one of our sillier features, but the Mastergame was *Head over Heels* which was seriously brilliant. Meanwhile the CPCs were surviving yet another threat, this time from the Spectrum Plus 3.

June 1987: Art Studio was back in an advanced form, and Type-Ins made their first magical appearance on the cover.

July 1987: *Pagemaker* was back in the news; we sorted out the confusion. *Head over Heels* was also back in one of those mega playing guides.

August 1987: Words Work popped up for the first time. So did classified ads.

September 1987: the CPCs and *AA* are still very much alive and kicking and looking forward to a third year of nonstop action.

■ To celebrate our second birthday we're going to give away a precious prize: *AA* memorabilia. There'll be just one priceless prize, a collection of original map artwork lovingly created by the art department, chromalins (ultra-glossy colour reproductions of a page), autographed magazines, photos of current and past staff, and any other goodies we can come up with.

To enter the competition you have to answer these five questions about *AA*, for which a set of back issues may well come in handy. Readers who've been with us since issue one will find the questions easy. We'd like to say a big thankyou to them especially, and to everyone who has joined us since.

Write the answers on a postcard or the back of a stuck-down envelope (not forgetting your own address) and post to reach us by September 16:

***AA* Comp, *Amstrad Action*,**
4 Queen Street, Bath, BA1 1EJ.

1 Who was the editor of the first issue of *AA*?

2 What was the first-ever Mastergame?

3 The first cover cassette had two games on it. Name one of them.

4 The highest-ever Mastergame rating was 96%. Which game got it?

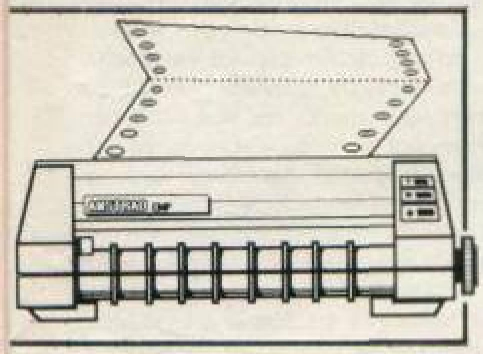
5 What was the name of the section where readers gave opinions on games?

6 What does T.O.ar Possibly stand for ?

Hot bargains under the big-top

With over 80 major exhibitors noisily trying to undercut each other at the umpteenth Official Amstrad Computer Show, the punter had a field-day. The temperature that July weekend was above 90°F in the tent packed with man and machine, and money changed hands at an alarming rate. Whether you were after a free Show Guide or just the best bargains around, the Alexandra Pavilion in North London was the place to be.

Much of the show was dominated by PC software and hardware. Amstrad's new PC1640 grabbed most of the attention. It features the IBM-standard EGA (enhanced graphics adaptor) system which, according to many, is what should have been on the earlier PC1512. To complement the new PC, Amstrad has released a new printer, the DMP 3160. It is identical in style to the DMP 3000.



The difference is speed: 160 cps in draft mode. Cost is £194.

It was encouraging to find many new products for CPC computers. Emphasis was on hardware and utility software. No games houses were present although several dealers shifted lots of games software. Mark Haigh-Hutchinson (author of the *Highway Encounter* series and more recently *Revolution*) popped in and showed us his latest, the long-awaited *Paper Boy*. The graphics



(by Paul Walker) are superb; animation and scrolling are just as impressive. You'll have to wait until Elite sends us a copy for a full review.

Romantic Robot, the people responsible for Multiface II, were



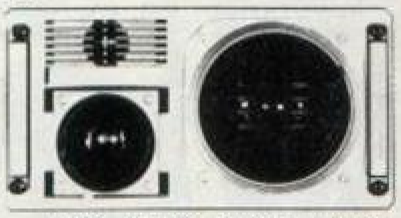
there in full force. As well as showing off their backup utility, they also demonstrated an exciting new product called Rodos – over two years' work by Matthew Edwards (author of the RR game *Wriggler*). Rodos is available on rom at an "introductory price" of £30. It is a new disk-operating system for the Amstrad. Director Alexander Goldscheider claims Amsdos hasn't a patch on it.

All the standard Amsdos commands are present but have been enhanced, giving more control over the system as a whole. And 55 new commands have been added. "The system is split in two: Rodos and RECS (rom external command system)," said Alex. Rodos makes disks operate up to three times faster. Subdirectories in true Unix MS-DOS style are possible; 80-track drives can be used with no extra software or hardware. And from what Alex said, RECS includes numerous utilities such as printer buffer, silicon disk, extended catalogue and formatter. Watch *AA* for a full review.

Advanced Memory Systems was there answering queries on *AMX Pagemaker*. The debugged version, renamed *Stop Press*, couldn't quite manage its debut at the show. Technical manager John Simpson had the answer: "The manual is being redone. New features have appeared in *Stop Press* and others were not mentioned in the first manual."

Although *Stop Press* wasn't ready, *Max* was. This is AMS's £20 disk-managment package, compatible with mouse or keys. *AMX 3D Zicon* was also on show. You draw in two dimensions; *Zicon* displays the result in three. £25 is the price. A curious bit of merchandise was AMS's rat badge – a brooch in the shape and colours of its new Mk III mouse. For £7.50 you could have one pinned to your chest.

HiSoft displayed an impressive range of software – unfortunately there was nothing new. However, Andy Pennel stated that a product code-named "Fork" would be available soon. A disk-hacking tool, it will be released under its true name, *Knife Plus*, for £20.



One of the loudest stands belonged to Siren Software. Simon Cobb was there doing a roaring trade with his Sound Blaster and three new products: *Splock Trans II* (which transfers more recent Speedlock-protected cassette programs to disk) at £8 on cassette, *Discology* ("the business" for backing up disks, according to Simon) at £15 on disk, T-shirts sporting the Siren Software logo at £5.

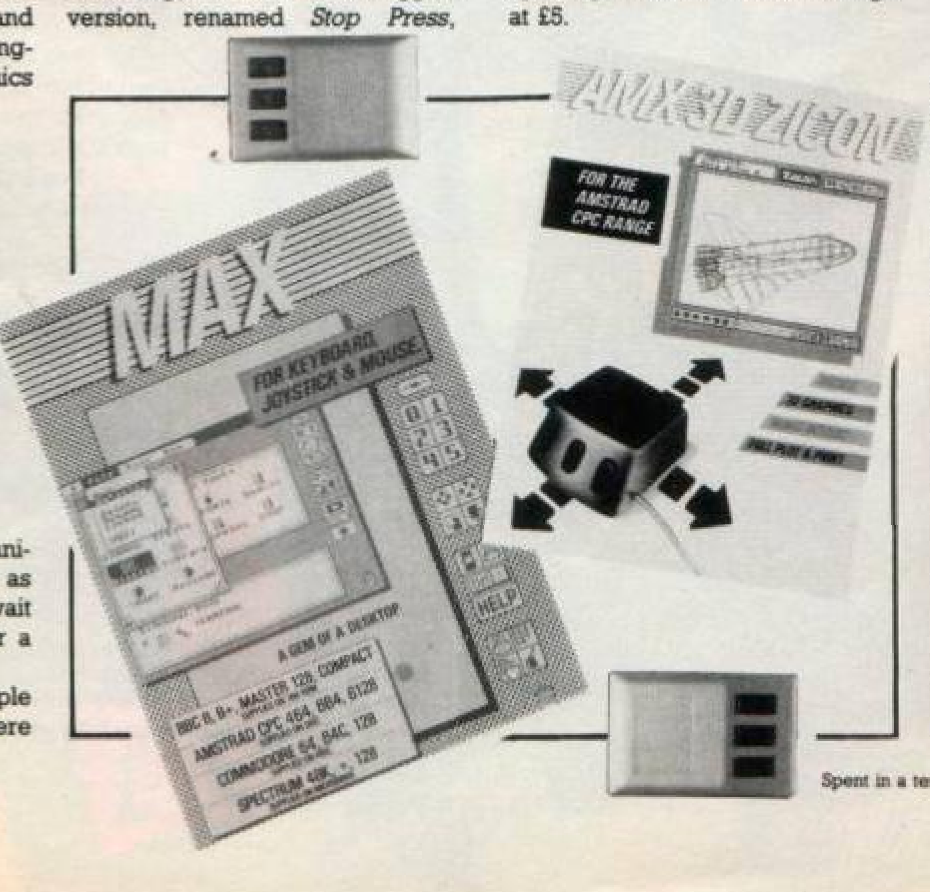


Surprisingly, two companies dealing in educational software were there: Bourne Education and LCL. Bourne demonstrated past greats while LCL concentrated on the new. LCL had three packages previously unseen on the Amstrad: *Primary Maths Course* (for infants), *Micro Maths* (for secondary-school students), and *Mega Maths* (for A-level students). Each costs £24.

A psychedelic show by KDS Electronics (makers of an 8-bit printer port, serial interface and Mini-Max modem) displayed a prototype of Micro-Party, an input-output device that converts sound to light – ideal for discos and the like. Kevin Seymour, head of KDS, said the product will be ready for general sale shortly.

Silicon Systems displayed both Amram II (the £80 plug-in that has 32k of battery-backed ram and four rom sockets) and a new Midi interface. Software for various synthesizers is under development. Elsonic software was ready at the show; Tim Kay promised Yamaha DX7 software would be ready in a few weeks.

The general opinion among exhibitors was surprise: CPC users were certainly lashing out on goods. Many stalls sold out of products and others couldn't pass it over the counter fast enough. You can expect to see many of the companies at the next show in Manchester in October. See you there.



For details...

Advanced Memory Systems ☎ (0925) 41 3501
166 Wilderspool Causeway, Warrington, WA4 6QA

Bourne Education ☎ (0794) 52 3301
Bourne House, The Hundred, Romsey, Hampshire, SO51 8BY

HiSoft ☎ (0525) 71 8181
The Old School, Greenfield, Bedford, MK45 5DE

KDS Electronics ☎ (04853) 2076
15 Hill Street, Hunstanton, Norfolk, PE36 5BS

LCL ☎ (0491) 57 9345
13 Deanfield Rd, Henley, Oxon, RG9 1UG

Romantic Robot UK Ltd ☎ 01-200 8870
15 Hayland Close, London, NW9 0LH

Silicon Systems ☎ 061-848 8959
Trafford Technology Centre, 43 Elsinore Rd, Manchester, M16 0WG

Siren Software ☎ 061-228 1831
2 Oxford Road, Manchester, M1 5QA



BOND BLASTS OUT

Win the £250 compact-disc ghettoblaster from *The Living Daylights*









"My name is Bond, James Bond. Licensed to kill." And, boy, does he have some weird ways of doing it in his latest film *The Living Daylights*. Gadgets all over the place, many of which crop up in the game. One particularly nasty device is a seemingly innocent ghettoblaster that at the touch of a button turns into a rocket-launcher and blasts the bad guys into lots of unrecognizable bits.

We got so completely carried away with all this hi-tech wizardry that we decided to give one away. No, no, no, no, you don't get the rocket-launcher as well. What you do get is a superb Philips ghettoblaster with a compact-disc player, worth £250. You can see the model here in missile-firing action from the film, but our model is lethal only for your ears.

Another feature of the film is a neat little whistling keyring. We've got 20 runners-up prizes in the form of these gadgets that beep when you whistle, so that you need never lose a key again. Once again they don't do quite what they do in the film – we don't want to lose any of you now, do we.

JB is well known for his witty and cutting remarks, so we want you to come up with captions or dialogue for these three stills from the film. They can be about anything you like on the Bond theme. You've got to provide captions for **all three** pictures.

The pictures are labelled A, B and C. Write your captions, labelled accordingly, on the back of a postcard or stuck-down envelope. Add your own name and address and send it to reach us by September 16:

Bond Comp, *Amstrad Action*,
4 Queen Street, Bath, BA1 1EJ.



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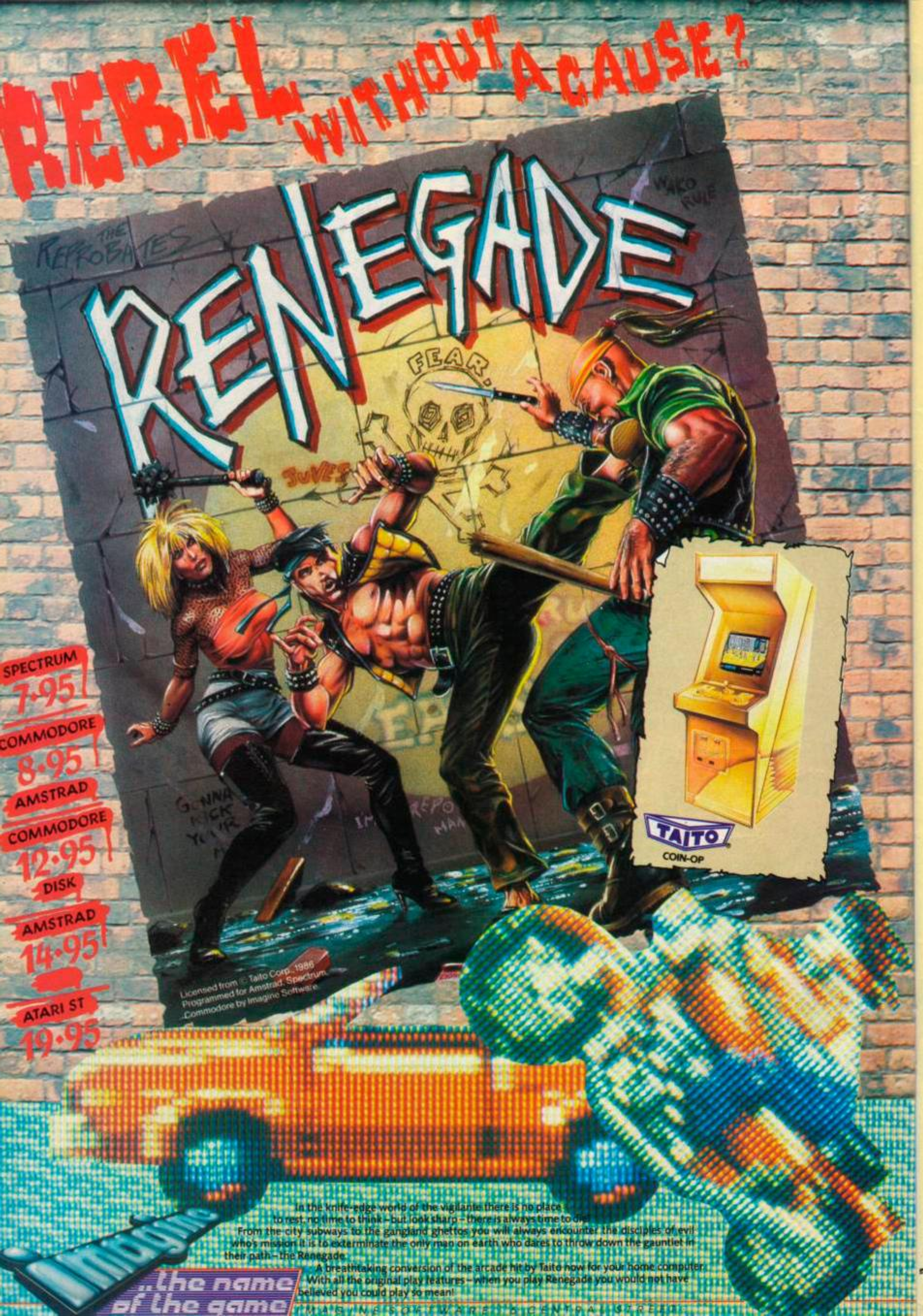
We need no glamorous heros, we need no flying witches ! Our hero is called SNAIL : he is an evil character, arrested and confined in NEW YORK prison. He's got only two options : if he succeeds in liberating the president of the US, he will be free, if he fails, he'll be dead and all this by using his brains as much as his INGRAM !...

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Commodore by Imagine Software
In the knife-edge world of the vigilante there is no place
to rest, no time to think – but look sharp – there is always time to die!
From the city subways to the gangland ghettos you will always encounter the disciples of evil
who's mission it is to exterminate the only man on earth who dares to throw down the gauntlet in
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A breathtaking conversion of the arcade hit by Taito now for your home computer.
With all the original play features – when you play Renegade you would not have
believed you could play so mean!
Imagine
...the name of the game
IMAGINE SOFTWARE 6 CENTRAL STREET

TYPE-INS

Program made plain

Discover a program's secrets: how it works, improvements that can be made and techniques worth remembering. This month we take a trip down memory lane...

Memory

You've played the card game; now play the computer version. **James Church** of St Austell in Cornwall has written an entertaining version of the old classic, Memory.

The idea is simple: numerous randomly located symbols are placed face-down (in other words you can't see what they are) – there are two of each. Only two symbols can be viewed simultaneously. You must hunt through the lot trying to pair them off. Tricky, because after you see them the symbols flip over – unless, of course, you make a match.

It's not hard to play. After a short period cards or blocks are drawn on the screen. Numbers are displayed along the top and left side of the screen – these act as a grid reference. When prompted, enter a card's reference point: horizontal first.

Space, the final frontier

```
1 ' Memory
2 ' by James Church
3 ' Amstrad Action    September 87
10 GOSUB 70 ' initialize
20 GOSUB 150 ' random selection
30 GOSUB 280 ' print board
40 GOSUB 360 ' play game
50 GOSUB 550 ' end of game
60 ERASE place$,char$: GOTO 10
```

There's nothing complicated in the first eight lines – you've seen it all before. What you may not have seen is `ERASE`. This command is used to wipe out the contents of arrays: to reclaim memory (ram, that is). The format is `ERASE` *array name*.

If you try to dimension the same array twice in a program you'll get an error message – arrays are nasty space-grabbers. Get rid of them once they've served their purpose.

```
70 ' initialize
80 RANDOMIZE TIME: PAPER 0: PEN 1
90 INK 0,0: INK 1,26: INK 2,6: BORDER 26
100 MODE 1: WINDOW#1,1,40,22,25
110 DIM char$(25),place$(10,5)
120 DEFINT a-z: turn=0: sc=0
130 FOR n=231 TO 255: char$(n-230)=CHR$(n): NEXT
140 RETURN
```

Kickstart

Notice line 80 which starts with `RANDOMIZE TIME`. You have had that before – it selects the seed for the random-number generator.

The other two commands on the line choose the background and foreground inkpots. In mode 0 you have 16 inkpots (ranging from 0 to 15); mode 1 has four and mode 2 a measly two. Each inkpot can be assigned any colour from a palette of 27. Indeed, line 90 demonstrates this by altering the colour held in inkpots zero, one and two. At the back of the *User Instructions* is a list of numbers and the colours they represent.

Windows are useful things. They can be thought of as tiny screens overlapping the whole screen. Text and graphics can be sent to windows – whatever's sent will remain there. It won't overflow into adjoining windows or the main screen. Instead of talking about window 1, window 2 and so on, windows are assigned stream numbers. Stream numbers start at 0 and finish at 9. But only eight can be used as windows: stream 8 is for the printer and 9 for the cassette or disk. And before you ask, yes, you can send (and receive) information on any stream.

Windows are defined simply by `WINDOW` *stream_number, left, right, top, bottom*. To send or receive information a hash (#) followed by the stream number must be placed after the command: `PRINT #5, "This is going to window six."`

The beat goes on

Lines 110 to 130 are responsible for allocating space to arrays and filling them up. Note that `char$` holds characters from 230 to 255. These are the symbols used in the game – which you'll discover later.

```
150 ' random selection
160 LOCATE 15,12: PRINT "Please wait"
170 FOR n=1 TO 25
180 x=RND*10: y=RND*5: IF x=0  OR y=0 THEN 180
190 z=RND*25: IF z=0 THEN 190
200 IF place$(x,y)<>"" THEN 180
210 IF char$(z)="" THEN 190
220 place$(x,y)=char$(z)
230 xx=RND*10: yy=RND*5: IF xx=0 OR yy=0 THEN 230
240 IF place$(xx,yy)<>"" THEN 230
250 place$(xx,yy)=char$(z): char$(z)="": NEXT n
260 SOUND 1,200,10,7: SOUND 2,300,10,7: SOUND 4,100,10,7
270 RETURN
```

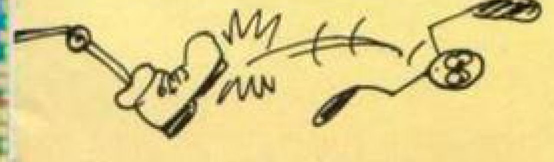
The random positions of symbols is calculated in lines 170 to 250. Once all the locations are determined the computer beeps at you.

Noise is achieved using `SOUND`. The command can have seven parameters. To keep things simple, we shall stick to the first four only: `SOUND` *channel_status, tone_period, duration, volume*.

The sound chip housed inside Arnold has three channels or voices. This means it can play three notes simultaneously. The first parameter (after `SOUND`) selects which channel or channels the sound should come from. *Tone* defines the pitch, *duration* specifies the length of time the note is to be played, and *volume* is obvious – selects the noise level.

```
280 'print board
290 CLS: c=1: FOR n=2 TO 40 STEP 4: LOCATE n,1
300 PRINT c: c=c+1: NEXT: LOCATE 37,1: PRINT 10
310 c=1: FOR n=2 TO 20 STEP 4: LOCATE 1,n
320 PRINT c: c=c+1: NEXT
330 FOR n=3 TO 40 STEP 4: FOR m=2 TO 20 STEP 4
340 LOCATE n,m: PRINT CHR$(143): NEXT m,n
350 RETURN
```

To position the cursor or text at a particular place on the screen, you need to use `LOCATE` – as in lines 290, 310 and 340. The parameters following it are stream number (not always necessary), *x* coordinate, *y* coordinate. To place the cursor at the top left corner of a window: `LOCATE 1, 1`.



Weaving

Myrtle Green of Tewkesbury, Gloucestershire, has sent in a program that will be handy for anyone intending to repair or create new designs on wicker chairs, baskets or even threads – the listing lets you design weave-patterns.

You are asked for background and three foreground colours. The foreground colours represent different shades of twine. Pressing 1, 2 or 3 will display a length of "twine" in the colour you selected – vertically first, then horizontally. Keep pressing keys until you have a satisfactory design.

```
1 ' Weaving
2 ' by Myrtle Green
3 ' Amstrad Action     September 87
10 MODE 1: ON BREAK GOSUB 460
20 SYMBOL 248,0,255,255,255,255,255,255,0
30 SYMBOL 249,126,126,126,126,126,126,126,126
40 a$=CHR$(248)+CHR$(32): FOR n=1 TO 14
50 ac$=ac$+a$: NEXT n: DIM col(3)
60 CLS: INK 1,24: INK 0,0: LOCATE 2,2
70 PRINT"Pick a background colour and 3 colours."
80 LOCATE 2,4: PRINT"Enter their numbers: "
90 LOCATE 3,8: PRINT "Background":LOCATE 12,10:PRINT "1"
100 LOCATE 12,12: PRINT "2": LOCATE 12,14: PRINT "3"
110 y=8: FOR a=0 TO 3: LOCATE 16,y: PRINT SPACE$(6)
120 LOCATE 15,y: INPUT ">",col(a)
130 IF col(a)>26 THEN GOTO 110
140 y=y+2: NEXT: FOR a=0 TO 3: INK a,col(a): NEXT
150 BORDER col(0): CLS: PRINT CHR$(22);CHR$(1);
160 x=23: FOR p=1 TO 3: PEN p: LOCATE x,23
170 PRINT STRING$(3,143)
180 x=x+6:NEXT p:PEN 0:LOCATE 23,23:PRINT" 1     2     3"
190 PEN 1:LOCATE 34,1: PRINT"."
200 LOCATE 5,23: PRINT "Colour number "
210 REM print rows down
220 x=6: FOR n=1 TO 14
230 GOSUB 430:x=x+1:RESTORE 290:FOR y=1 TO 21:READ chr
240 LOCATE x,y: PEN col: PRINT CHR$(chr);: NEXT y
250 GOSUB 430: x=x+1:RESTORE 280:FOR y=1 TO 21:READ chr
260 LOCATE x,y: PEN col: PRINT CHR$(chr);: NEXT y,n
```

Hextype

Here's an extremely useful type-in from **Jeff and Rufus Cable** in Ireland. The short program redefines the keypad enabling you to enter hexadecimal digits. This is ideal for entering other listings that have lots of data statements. Run it before typing in a data-laden listing. It defines the keys as follows:

key	*Normal*	*Shift*	*Control*
f1	1	A	1
f2	2	B	2
f3	3	C	3
f4	4	D	4
f5	5	E	5
f6	6	F	6
.	,	&	.
Enter	DATA		

```
1 ' Hextype
2 ' by Jeff and Rufus Cable
3 ' Amstrad Action     September 87
10 CLS: MODE 1: INK 0,0: INK 1,13: BORDER 0
20 KEY DEF 7,1,&2C,&26: KEY DEF &D,0,&31,&41
30 KEY DEF &E,0,&32,&42: KEY DEF 5,0,&33,&43
40 KEY DEF &14,0,&34,&44: KEY DEF &C,0,&35,&45
50 KEY DEF 4,0,&36,&46: KEY &8B,"DATA "
```

Dead end

```
360 'play game
370 PEN#1,2: LOCATE 16,21: PRINT "Turns=";turn
380 LOCATE#1,1,1: PRINT#1, "Co-ordinates: "
390 CALL &BB03: INPUT#1,"Square 1 ";a,b
400 IF a>10 OR a<1 OR b>5 OR b<1 THEN 390
410 a1=(a*4)-1: b1=(b*4)-2: PAPER 1: PEN 0
420 LOCATE a1,b1: PRINT place$(a,b): PAPER 0: PEN 1
430 INPUT#1,"and square 2 ";c,d
440 IF c>10 OR c<1 OR d>5 OR d<1 THEN 430
450 CLS#1: c1=(c*4)-1: d1=(d*4)-2
460 PAPER 1: PEN 0: LOCATE c1,d1
470 PRINT place$(c,d): PAPER 0: PEN 1
480 IF place$(a,b)=place$(c,d) THEN sc=sc+1: GOTO 530
490 turn=turn+1
500 FOR n=1 TO 2000: NEXT
510 LOCATE a1,b1: PRINT CHR$(143): LOCATE c1,d1
520 PRINT CHR$(143): GOTO 370
```

It is this part of the program that lets you enter the coordinates of the card you wish to examine. Line 390 contains `CALL &BB03` – a useful firmware routine that clears the input buffer. Anything typed before the call is lost. Unfortunately the call has the adverse effect of making it impossible to break out of a listing. Both 664 and 6128 owners have a Basic command to do this: `CLEAR INPUT`.

```
530 'test to see if finished
540 IF sc=25 THEN RETURN ELSE GOTO 370
```

Have you discovered all 25 symbols? If you have, then off to 50 you go – otherwise it's back to 370.

```
550 'end of game
560 CLS: LOCATE 14,2: PRINT "You've finished!"
570 IF hiturn=0 THEN hiturn=1000
580 IF hiturn>turn THEN hiturn=turn
590 LOCATE 13,5: PRINT "You took ";turn;" turns"
600 LOCATE 9,7: PRINT "Your best is ";hiturn;" turns"
610 LOCATE 11,20: PRINT "Another go?(Y/N) "
620 IF INKEY(43)<>-1 RETURN ELSE IF INKEY(46)<>-1 END
630 GOTO 620
```

When you've uncovered all the symbols a message tells you how many moves you took. Line 620 waits until you've pressed Y or N in response to the "Another go?" prompt. The `INKEY` command is used to interrogate the keyboard and report which keys are being pressed. It is much faster than using `INKEY$` and, although harder to implement, is much more versatile. It can detect keypresses with Shift or Control as well as normal, or it can be used in such a way that the Shift and Control states don't matter. It can even detect several simultaneous keypresses.

The command is used like this: `INKEY(`*`key_number`*`)`. It is now possible to decipher line 620. If you look at the back of the *User Instructions* there's a table telling you the key numbers for all keys (it's reproduced on the 664 and 6128's case). Look up 43 and you'll find it represents the Y key. Therefore, if key Y is pressed (regardless of its state) return from the subroutine. But if key N is pressed, end.

Mandelbrot addition

If you ran last month's Mandelbrot generator, you should have several screen images saved on cassette or disk. To load them back in pristine condition, use this short loader. Unfortunately it got left out of the main article. Sorry.

```
1 'Mandelbrot picture loader
20 FOR a%=0 TO 15: READ col%: INK a%,col%: NEXT
30 DATA 0,4,1,2,9,12,18,25,24,15,6,7,16,10,13,26
40 BORDER 0: MODE 0
50 FOR a=1 TO 7: a$=CHR$(a+ASC("1")-1): GOSUB 70
60 MODE 0: NEXT: END
70 LOAD "mandpic"+a$+".pic": CALL &BB18: RETURN
```

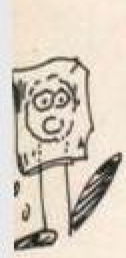
```
270 SOUND 1,238,15: SOUND 1,436,15
280 DATA 249
290 DATA 249,32,249,32,249,32,249
300 DATA 32,249,32,249,32,249,32,249
310 DATA 32,249,32,249,32,249
320 REM rows across
330 y=1: FOR n=1 TO 10: GOSUB 430: y=y+1: PEN col: x=7
340 LOCATE x,y: PRINT ac$: GOSUB 430: y=y+1: PEN col: x=8
350 LOCATE x,y: PRINT ac$: NEXT n
360 SOUND 1,238,15: SOUND 1,436,15
370 PRINT CHR$(22);CHR$(0);: PEN 2: LOCATE 4,25
380 PRINT"Another?  Same colours <s>  New <n> "
390 c$=UPPER$(INKEY$): IF c$="" THEN 390
400 IF c$="S" THEN 150
410 IF c$="N" THEN 60
420 GOTO 390
430 REM select colour to print row
440 c$="": WHILE INSTR(" 123",c$)<2: c$=INKEY$: WEND
450 col=VAL(c$): RETURN
460 MODE 2: PEN 1: INK 1,24: INK 0,0: LIST
```

Unscramble

If you want to create an impressive title screen for your program then **Paul James** of Merthyr Tydfil has the goods. His listing hides the contents of the screen, draws a picture and then displays the screen in an interesting fashion. You can use this or similar effects to spruce up your programs.

```
1 ' Unscramble
2 ' by Paul James
3 ' Amstrad Action    September 87
10 MODE 0: SPEED INK 7,7: BORDER 0:INK 3,15,26:INK 4,26,15
20 ' Hide Screen
30 OUT &BC00,65: OUT &BD00,0
40 ' Print screen may be omitted
50 ' or different routine inserted
60 st=1: en=12: s=2: flag=0
70 FOR p=st TO en STEP s: LOCATE p+1,p
80 IF flag=1 THEN LOCATE p,25-p
90 PEN 3: PRINT"Amstrad": LOCATE p+2,p+1
100 IF flag=1 THEN LOCATE p-1,(25-p)+1
110 PEN 4: PRINT"Action": NEXT: st=12: en=1: s=-2
120 IF flag=0 THEN flag=1: GOTO 70
130 ' Recover Screen
140 FOR unsc=0 TO 40: CALL &BD19: OUT &BC00,65:
150 OUT &BD00,unsc: FOR w=1 TO 60: NEXT w,unsc
160 ' Finish or place rest of program here
170 ' Press key to end
180 WHILE INKEY$="": WEND
190 CALL &BC02: PEN 1: MODE 2: LIST
```

Freeze



You're in the middle of a game, about to blast the trillionth penguin, and for some reason you have to leave the computer; there's no pause facility – &□*☛$%✂!

CP Wooldridge of Dyfed to the rescue! Run his listing before playing a game. To pause a game (or any program) press Tab; to resume play press Capslock. Now isn't that handy?

Please note that this routine won't work with *all* commercial software.

```
1 ' Freeze
2 ' by CP Wooldridge
3 ' Amstrad Action    September 1987
10 FOR i=&B460 TO &B48B
20 READ a$: POKE i,VAL("&"+a$): NEXT
30 MODE 1: PRINT"FREEZE INSTALLED"
40 CALL &B460: CALL &B46B
50 DATA 21,91,b4,06,81,11,7d,b4,c3,ef,bc,21
60 DATA 8b,b4,11,05,00,01,05,00,c3,e9,bc,21
70 DATA 8b,b4,c3,ec,bc,3e,44,cd,1e,bb,c8,3e
80 DATA 46,cd,1e,bb,28,f9,c9,00
```

Spinning diamond

It's a while since we published a listing that uses palette switching to give the impression of slick animation. **Giles Park** of Leeds has come up with one that really looks impressive: stars go whizzing by, a diamond spinning in their midst.

```
1 ' Spinning diamond
2 ' by Giles Park
3 ' Amstrad Action    September 87
10 ' ****SET UP SCREEN + COLOURS****
20 INK 11,26: FOR T=0 TO 15: INK T,T: NEXT: INK 11,26
30 ' ****DRAW STARS****
40 MODE 0: FOR R=1 TO 20: FOR E=10 TO 5 STEP -2
50 FOR W=1 TO 3: MOVE -100+RND*640,1+RND*400
60 FOR Q=1 TO 10: PLOTR E*W,0,Q: NEXT q,w,e,r
70 ' ****DRAW DIAMOND****
80 coltri=1: FOR R=0 TO 90 STEP 9
90 FOR T=0 TO 360 STEP 90: DEG
100 MOVE 320+200*COS(T+R),200+100*SIN(T+R)
110 DRAW 320+200*COS(T+90+R),200+100*SIN(T+90+R),coltri
120 DRAW 320,0: MOVE 320+200*COS(T+R),200+100*SIN(T+R)
130 DRAW 320+150*COS(T+R),300+75*SIN(T+R)
140 DRAW 320+150*COS(T+R+90),300+75*SIN(T+R+90): NEXT
150 ' ****SPINNING PART****
160 coltri=coltri+1
170 IF coltri>10 THEN coltri=1
180 NEXT: coltri=26
190 FOR T=1 TO 10: INK T,coltri: INK T-1,0
200 CALL &BD19: INK 10,0: NEXT t: GOTO 190
```

Pattern plotter

Here's a handy program for anyone with a plotter: it generates patterns and gives you the option of sending it to a Tandy plotter. **Paul Bridel** of Cullompton, Devon, is the man to thank.

If you have a different plotter, a breakdown of the codes may help you write your own plotter driver:

- `CHR$(17)` sets text mode
- `CHR$(18)` sets graphics mode
- `S0` gives 80 columns
- `P` lets you mix text and graphics
- `M` means move pen
- `I` sets the origin
- `D` for draw
- `A` to return to text mode

```
1 ' Pattern plotter
2 ' by Paul Bridel
3 ' Amstrad Action    September 87
20 ' For Tandy CGP-115 plotters & compatibles
30 MODE 2: INPUT"Step Value (0.1 to 4 are best) ";stp
40 ' Screen-draw routine
```

```
50 ORIGIN 320,200: FOR a=0 TO 230 STEP stp
60 DRAW a*SIN(a),a*COS(a): NEXT a
70 INPUT "Do you want a plot-out of this? ";plt$
80 IF plt$="Y" OR plt$="y" THEN 100 ELSE 30
90 ' Plot Routine
100 PRINT#8,CHR$(17): PRINT#8: PRINT#8,CHR$(18)
110 PRINT#8,"S0": PRINT#8,"PStep Value: ";stp
120 PRINT#8,"M240,-240": PRINT#8,"I"
130 FOR a=0 TO 230 STEP stp
140 PRINT#8,"D";a*SIN(a);",";a*COS(a): NEXT a
150 PRINT#8,"A": GOTO 20
```

Revolving message

Recently there was a short listing that moved a printed message in the shape of a sine wave. This month **Rafe Aldridge** of Essex has written a similar one: it moves a message in a circle.

```
1 ' Revolving message
2 ' by Rafe Aldridge
3 ' Amstrad Action    September 87
10 MODE 1: DEG: TAG: ORIGIN 200,200
20 INK 0,0: INK 1,0: INK 2,0: INK 3,0: PAPER 0: BORDER 0
30 FOR lp=1 TO 360 STEP 10: col=col+1: IF col>3 THEN col=1
40 MOVE 100*COS(lp),100*SIN(lp),col
50 PRINT "MESSAGE";: NEXT lp
60 INK 1,26: INK 1,0: INK 2,26: INK 2,0
70 INK 3,26: INK 3,0: GOTO 60
```

Text editor

Mark Bonshor of Loughborough has written a simple word-processor. It is reasonably short, easy to use, yet powerful enough to produce a document.

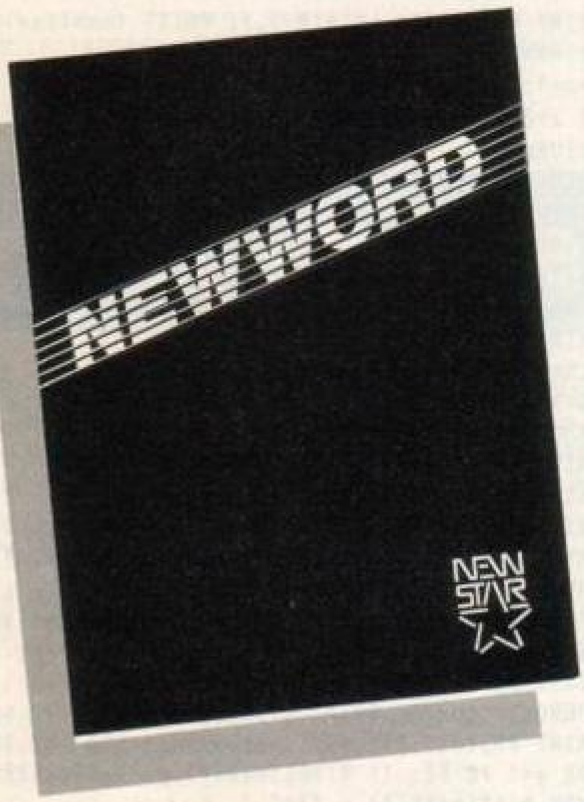
Use the arrow keys to move the cursor. Delete and Clear do the erasing. Use Control-S to save, Control-L to load and Control-P to print. Tab moves the cursor ahead five spaces, Shift-Tab changes the case of the letter under the cursor. To justify a line press Shift-Delete. Finally there's Control-[to insert a character-space into the text.

```
1 ' Text editor
2 ' by Mark Bonshor
3 ' Amstrad Action    September 87
30 MODE 2: WINDOW 1,80,2,25: WINDOW #1,1,80,1,1
40 PAPER #1,1: PEN #1,0:PAPER 0:PEN 1: CLS: CLS#1: mapa=1
50 CLS: CLS#1: mapa=1: EVERY 100 GOSUB 580
60 DIM tex$(200): FOR f=1 TO 200: tex$(f)=SPACE$(80): NEXT
70 FOR f=1 TO 24: PRINT tex$(f);: NEXT: a=1: s=1: tex=1
80 PAPER 1: PEN 0: LOCATE a,s: PRINT MID$(tex$(tex),a,1);
90 a$=INKEY$: IF a$="" THEN 90
100 PAPER 0: PEN 1: LOCATE a,s: PRINT MID$(tex$(tex),a,1);
110 zx$=CHR$(241)+CHR$(240)+CHR$(127)+CHR$(13)+
    CHR$(16)+CHR$(27)
120 ON INSTR(zx$,a$) GOSUB 250,280,310,340,350,370
130 IF INKEY(1)=0 THEN a=a+1: IF a=81 THEN a=1: GOSUB 250
140 IF INKEY(8)=0 THEN a=a-1: IF a=0 THEN a=80: GOSUB 280
150 IF INKEY(27)=128 THEN GOTO 400
160 IF INKEY(60)=128 THEN GOTO 450
170 IF INKEY(36)=128 THEN GOTO 530
180 IF INKEY(68)=32 THEN GOSUB 590
190 IF INKEY(79)=32 THEN GOSUB 630: GOTO 80
200 IF INKEY(68)=0 THEN a=a+5: IF a>80 THEN a=80
210 IF INKEY(24)=32 THEN MID$(tex$(tex),a,1)="#": LOCATE
    a,s: PRINT "#";: a=a+1: IF a=81 THEN a=1: GOSUB 250
220 IF tex>mapa THEN mapa=tex
230 IF ASC(a$)>31 AND ASC(a$)<126 THEN MID$
    (tex$(tex),a,1)=a$: LOCATE a,s: PRINT a$;: a=a+1:
    IF a=81 THEN a=1: GOSUB 250
240 GOTO 80
250 IF s<24 THEN s=s+1: tex=tex+1: GOTO 270
260 IF s=24 AND tex<200 THEN tex=tex+1: LOCATE 1,24:
    PRINT CHR$(10): LOCATE 1,24: PRINT tex$(tex);
270 RETURN
280 IF s>1 THEN s=s-1: tex=tex-1: GOTO 300
290 IF s=1 AND tex>1 THEN tex=tex-1: LOCATE 1,1:
    PRINT CHR$(11): LOCATE 1,1: PRINT tex$(tex);
300 RETURN
310 a=a-1: IF a>0 THEN MID$(tex$(tex),a,1)=" "
320 IF a=0 THEN a=80: GOSUB 280: MID$(tex$(tex),a,1)=" "
330 RETURN
340 a=1: GOSUB 250: RETURN
350 c$=tex$(tex): z$=LEFT$(c$,a-1): x$=RIGHT$(c$,80-(a))
360 tex$(tex)=z$+x$+" ":LOCATE 1,s:PRINT tex$(tex);:RETURN
370 c$=tex$(tex): z$=LEFT$(c$,a-1): x$=RIGHT$(c$,81-a)
380 tex$(tex)=z$+" "+LEFT$(x$,LEN(x$)-1): LOCATE 1,s
390 PRINT tex$(tex);: RETURN
400 CLS: PRINT "NLQ ? Y/N"
410 v$=INKEY$: IF v$="" THEN GOTO 410
420 IF UPPER$(v$)="Y" THEN PRINT #8,CHR$(27)+"x"+CHR$(1);:
    PRINT #8,CHR$(27)+"R"+CHR$(3);
430 PRINT "OK": PRINT "Printing!": PRINT: FOR f=1 TO mapa
440 PRINT #8,tex$(f): PRINT tex$(f);: NEXT: CLS: GOTO 70
450 PRINT CHR$(13);CHR$(13);"Preparing To Save"
460 FOR f=1 TO mapa: FOR g=1 TO 80
470 IF MID$(tex$(f),g,1)=" " THEN MID$(tex$(f),g,1)=
    CHR$(255)
480 NEXT: NEXT: PRINT"Saving..."
490 OPENOUT "text": PRINT #9,mapa: FOR f=1 TO mapa
500 PRINT #9,tex$(f): NEXT: CLOSEOUT: FOR f=1 TO mapa
510 FOR g=1 TO 80: IF MID$(tex$(f),g,1)=CHR$(255)
    THEN MID$(tex$(f),g,1)=" "
520 NEXT: NEXT: CLS: GOTO 70
530 PRINT CHR$(13);"Loading...":OPENIN"text":INPUT #9,mapa
540 FOR f=1 TO mapa: INPUT #9,tex$(f): NEXT: CLOSEIN
550 FOR f=1 TO mapa: FOR g=1 TO 80
560 IF MID$(tex$(f),g,1)=CHR$(255) THEN MID$
    (tex$(f),g,1)=" "
570 NEXT: NEXT: CLS: GOTO 70
580 PRINT#1,"TEXT EDITOR: Column: ";a;" Line: ";tex:RETURN
590 C$=MID$(TEX$(TEX),A,1)
600 IF ASC(C$)>64 AND ASC(C$)<91 THEN MID$(TEX$(TEX),A,1)
    =LOWER$(MID$(TEX$(TEX),A,1)): GOTO 620
610 IF ASC(C$)>96 AND ASC(C$)<123 THEN MID$(TEX$(TEX),A,1)
    =UPPER$(MID$(TEX$(TEX),A,1))
620 RETURN
630 a$=tex$(tex): oa$=a$: FOR f=1 TO LEN(a$)
640 IF MID$(a$,f,1)="." THEN GOTO 800
650 NEXT
660 z=1: IF a$=SPACE$(80) THEN GOTO 800
670 IF MID$(a$,z,1)<>" " THEN GOTO 690
680 z=z+1: GOTO 670
690 z=z-1: a$=a$+SPACE$(z): a$=RIGHT$(a$,80): z=80: x=1
700 IF MID$(a$,z,1)<>" " THEN GOTO 720
710 z=z-1: x=x+1: GOTO 700
720 x=x-1: need=x: a$=LEFT$(a$,80-need): p=0: p=p+1
730 IF p=LEN(a$) THEN p=1
740 IF LEN(a$)=80 THEN GOTO 800
750 IF MID$(a$,p,1)=" " THEN GOSUB 780: p=p+1:
    IF p=LEN(a$) THEN p=1
760 IF INKEY(18)=0 THEN a$=oa$: GOTO 800
770 GOTO 730
780 c$=LEFT$(a$,p): v$=RIGHT$(a$,LEN(a$)-p)
790 a$=c$+" "+v$: RETURN
800 tex$(tex)=a$: LOCATE 1,s: PRINT LEFT$(tex$(tex),80);:
    RETURN
```

WORDS WORK

How to get the most from your word-processor and printer

This month we finish off the setup procedure, look at a few tips you have sent in and discover how to get the best results from a printer.



Newword under CPM Plus

CPM Plus has no direct equivalent to CPM 2.2's relatively friendly Setup program. If you want to alter colours, key definitions and the like then you'll need the help of several transient utility commands (found on your system disk).

First, copy *Newword* onto a CPM Plus system-formatted disk – this can be achieved by using CPM 2.2's Filecopy or Pip. If you're using Pip, type this at the A> prompt:

```
PIP a:=b:NW*.*
```

This will copy all *Newword* files (the star means "anything") to your newly formatted disk – just follow the prompts. You must also copy Palette and Setkeys (you'll find them on your system disk) to the new disk. Also copy Submit if you wish to create an auto-start disk.

Palette, as its name suggests, is used to select background and foreground colours. To alter colours you must supply parameters after the Palette command, like this:

```
Palette 63,0
```

This gives you a bright white background and border with black text. The first parameter specifies paper and border colour while the second is for foreground (text) colour. In chapter 5, page 25, of the 6128 *User Instructions* is a table that gives you colours and their associated number.

Key definitions

The Setkeys utility can be used to alter the codes generated by the keyboard. For example, you can define function keys or change keyboard layout from Qwerty to Azerty (as used in France). The way it works is more complex than Palette, though.

A command file must be created using a text editor (that is, *Newword* or any other word-processor that creates a pure Ascii file). Suppose you want to swap the pound (£) and hash (#) round and you want key *f0* to hold the sequence ↑KS (this saves the document and lets you carry on editing it in *Newword*) then, from within *Newword*, type:

```
57 S "£"
24 S "#"
E 128 "↑KS"
```

Save this file as KEYS.NEW.

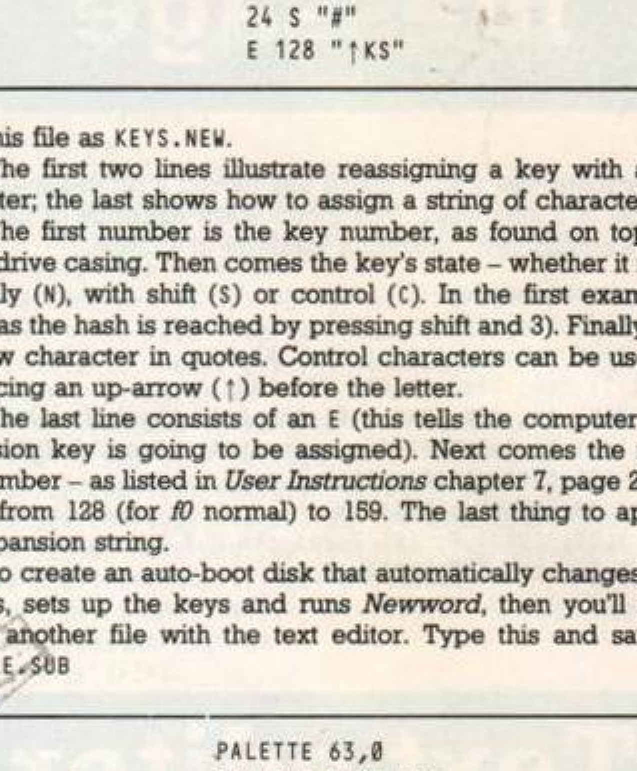
The first two lines illustrate reassigning a key with a single character; the last shows how to assign a string of characters.

The first number is the key number, as found on top of the 6128's drive casing. Then comes the key's state – whether it is typed normally (N), with shift (S) or control (C). In the first example we use S (as the hash is reached by pressing shift and 3). Finally comes the new character in quotes. Control characters can be used here by placing an up-arrow (↑) before the letter.

The last line consists of an E (this tells the computer that an expansion key is going to be assigned). Next comes the function key number – as listed in *User Instructions* chapter 7, page 22, these range from 128 (for *f0* normal) to 159. The last thing to appear is the expansion string.

To create an auto-boot disk that automatically changes screen colours, sets up the keys and runs *Newword*, then you'll need to create another file with the text editor. Type this and save it as PROFILE.SUB

```
PALETTE 63,0
SETKEYS KEYS.NEW
NW
```



Printer power

After working hard on a document or letter, you'll naturally want to see it in print. But it isn't always a simple matter of sending the contents of a file to the printer. We kick off this month with *Protext*.



The Amsdos version of *Protext* lets you dump files to a Centronics (parallel) printer. If you own a serial printer, you're stuck – unless you have a routine that redirects the output. The CPM version of *Protext* is slightly more helpful: it has a built-in routine that lets you use a serial printer.

You will know that typing `PRINT` or just `P` in Protext command mode sends everything to the printer (in draft mode). You should also have spotted that it leaves margins at the top, bottom and sides of a page. These are the default printing options. By meddling with these options you can alter the layout of the printed document.

All change at default

Make sure you are in command mode; type `SETPRINT`. This question "Set print options (Y/N) ?" will appear. Answer yes. A list of options and their default settings will drop down. You are ready to make changes.

The first item to choose is continuous or single-sheet printing. Unless you need to print on quality paper or headed paper (which is normally available in single sheets) pick continuous.

Then you have the choice of printing in draft or NLQ (near-letter quality). Normally you'd use NLQ only for the final version. Do check that your printer uses Epson codes, including the one for NLQ, before selecting this option. If your printer isn't Epson-compatible but does do NLQ, you'll need to alter the codes sent to the printer – more of this later, though.

If you want the printer to roll to the top of a fresh page after printing, ready for the next job, then this can be selected. Otherwise the printer stops after the last line. You can also specify several copies of each document.

Printer stationery comes in two standard lengths: 11- and 12-inch. There are normally six lines to the inch, so if you use 12-inch paper you'll need to alter the page-length option to 72 lines. Unless you say otherwise, header and footer margins will take up some of these.

Once you've finished altering the `Setprint` options, press Escape. *Protext* offers to change the control codes sent to the printer (for now say no) or to redefine characters (no again). Save all the changes you have made under a filename such as `draft.pd`. Then you won't have to keep altering options every time you wish to print a file from *Protext*. Of course you can save as many printer-drivers as you feel necessary. For example, you could have one for draft documents and another for the final version. To load a printer-driver all you type is the command `printer draft.pd`.

Control codes

You can type printer-control codes within a *Protext* document. These codes show on screen in inverse video, but not on paper. Control codes turn on and off certain printer functions such as bold, condensed or underlined. You type them as Control-X then any letter from `a` to `z`. In general the first occurrence of the code turns the chosen feature on and the second turns it off. So if you type `▮word▮` the printer produces *word*, in italics.

Note that the default codes work only with Epson-compatible printers. And not every printer has the full range of features. So check your printer manual carefully before pulling your hair-ribbons out.

The default driver uses 14 different printer-control codes. This leaves eight unused (plus `w`, `x`, `y` and `z`, usable even though they don't appear on the screen!). So if your printer has extra functions you can define these. You will have to redefine existing codes if your printer doesn't use the standard ones.

To do this, again type the *Protext* command `SETPRINT`. Answer no to "Set print options?" and yes to "Change control codes?" Then type the letter of the control code you want to alter. You must now type the sequence of Ascii numbers that the printer needs for switching that function on. Then type Return. *Protext* now asks you to type the sequence of codes for switching the function off.

For example, the Mannesmann-Tally printer does not use standard Epson codes for subscript and superscript. So to set this up, press `s` from the "Define control codes" menu, enter the values `27 83 00` to switch subscript on and `27 84` for off. For superscript pick `t` and enter `27 83 01` for on, `27 84` for off.

At *Amstrad Action* we use CPCs (of course) and *Protext* to write the magazine. The same control codes in our typing will produce a draft on a dot-matrix printer or, with `printer Lino.pd`, will be translated into phototypesetter codes.

Next month we shall look at *Protext*'s ability to have stored printer commands within a document. And printing from *Tasword* and other word-processors will be duly covered.

Ways with words

Do you have favourite tricks for getting the best out of your word-processor? Share them with other Amstrad addicts. Send them in to "Words Work", *Amstrad Action*, 4 Queen St, Bath, BA1 1EJ. Here is a selection of tips we've already recieved.

Tasword error

Having read your item "Tuning *Tasword*" (*AA* 23) I felt obliged to air my views. The *Tasword 464* manual, appendix 3, describes the procedure as shown in your article for redefining the function keys. However, page 9 and pages 35-41 go into considerable detail describing how to customize and then save *Tasword*. As the whole operation is menu-driven, I would suggest it a safer way than directly amending the Basic program.

I haven't got a copy of *Tasword 6128* and therefore cannot give you page numbers; however, I'm sure the procedure is identical.

Ned Brazil
Bray, Co Wicklow

Apologies all round.

Customizing *Tasword 6128*

I have programmed some of the function keys in *Tasword 6128* in the following way:

```
20 KEY 0, CHR$(19)+CHR$(26)+chr$(24)
30 KEY 1, CHR$(19)+CHR$(26)+CHR$(24)+CHR$(13)+SPACE$(9)
   +CHR$(1)+SPACE$(60)+CHR$(4)+CHR$(248)+CHR$(6)
40 KEY 2, STRINGS$(5,29)+CHR$(198)+CHR$(226)+CHR$(198)
   +STRINGS$(4,13)+SPACE$(39)
```

Pressing Control-*f0* resets the margins and clears the tabs – setting them to their default values. Control-*f1* gives a left margin at column 10 and right margin at 70. Finally, Control-*f2* pulls down the contents of notepad 1 at the beginning of your document. If you store your address in notepad 1 you get a letter heading with no effort at all. Once the address has been printed, the cursor will rest in the correct position for you to type in the date.

Graham Bennett
Hereford

Hard spaces

Has anyone else noticed that you can get a hard space using *Tasword*? I was fed up with having letters appear like this:

```
Mr  F   Bloggs   is   moving   to   5   Erewhon   Avenue.
```

The hard space lets me produce lines like this:

```
Mr F Bloggs      is      moving      to      5 Erewhon Avenue.
```

The hard space is found in the second character set, which is accessed with Control-\. Hit the space bar – et voilà. The hard space shows on the screen as an inverse space, but prints as a normal space. It hoodwinks the justify function that `Mr F Bloggs` is all one word, so that it doesn't get spread all over the page.

Allan Webster
Glasgow

Final say on *Easi-Amsword*

I have a tip for using *Easi-Amsword*. Load it up, find the switch on the side of your computer marked "on-off", move this to the off position, take out the tape, throw it in the bin, turn to page 73 of *AA* 23, dial the number at the bottom of the page – (0458) 74192 – quote the number on your wife's piece of plastic saying you would like to order A203, and wait a few days. A package will land itself on your front mat. Follow the instruction manual from there.

C Parsons
High Wycombe, Bucks

PROBLEM ATTIC



Lofty enigmas with Arnold never (well, hardly ever) leave RpM spinning

Switching on Roms

I have an Amstrad 6128 with romboard and several roms. As you are aware, roms take up memory needed by much commercial software. As I have *Protext* on rom, I can switch off all roms except the disk rom using `|ROMON7`. I have tried to use this command in a small program, however, once the `|ROMON7` command has executed, the rest of my program disappears. Is it possible to switch off unwanted roms from within a program, or am I stuck?

MJ Ellick
Nailsea, Avon

The `|ROMON7` command performs a soft-reset: anything in memory is lost. The small routine below will achieve the same as `|ROMON7`, but retains information held in memory.

```
10 FOR t=&BE80 TO &BE8B: READ a$
20 POKE t,VAL("&"+a$): NEXT: CALL &BE80
30 DATA 0e,07,11,40,00,21,ff,ab,cd,ce,bc,c9
```

Printer trouble

I have recently purchased a second-hand Epson MX80 F/T printer. What I would like to know is whether or not it is capable of graphics. I tried using it from *Mini Office II* to produce a piechart. All I got was a jumble of characters.

S Hodge
Shirley, Southampton

Unfortunately the early MX range of printers were incapable of graphics printing. New roms can be fitted that allow graphics and other features. You can get a set of three upgrade chips from PNP Micros, 01-677 7631.

Recorders are no-go

Please could you help? I am another of those fed-up 6128 users who cannot stand tape-recorders. Mine annoys me immensely. I have one, yes, just one, piece of software on cassette – and it won't load.

My tape-recorder has four sockets: Monitor, Line in, Remote, Mic. The connecting cable has three: one black and two grey. One of the grey wires is slightly smaller than the others. Which goes where? I despair, I have tried every combination. There is also volume and tone control. Do these affect loading?

Daniel Berman
Liverpool

Yes, the external cassette-recorder that 664 and 6128 owners need causes much frustration. The small grey wire connects into the Remote socket. You'll have to juggle with the other two: one goes into Line in, the other into Mic. If nothing happens one way round, try it the other. Move the tone control to full and volume three-quarters of the way up.

Extended catalogue

I would like to know if and how the extended cassette-catalogue program in issue 18 could easily be converted to operate on disk files.

Louis Thorne
Peterborough, Cambs

It isn't possible to convert the cassette-catalogue routine: it consists of calls to the cassette operating system. However, below 's a short routine that will give extended information on disk files.

The program will give a directory of the programs on disk: you must enter the name of the file you're interested in. If you enter a nonexistent filename or garbage, you'll get false data – rubbish in, rubbish out. As it stands, the program works for drive A only. Altering `|A` in line 50 to `|B` will let you use it with drive B.

```
1 ' Extended disk cat
2 ' by Richard Monteiro
3 ' Amstrad Action    September 87
10 FOR t=&9000 TO &9020: READ a$: POKE t,VAL("&"+a$): NEXT
20 DATA 11,00,c0,21,21,90,06,0c,cd,77,bc,32,2d,90
30 DATA ed,53,2e,90,ed,43,30,90,11,1a,00,19,22,32
40 DATA 90,cd,7a,bc,c9
50 |A: MODE 2: CAT: INPUT"Filename ";z$:POKE &9007,LEN(z$)
60 PRINT: z$=UPPER$(z$): FOR t=&9021 TO &9021+LEN(z$)-1
70 POKE t,ASC(MID$((z$),a+1,1)): a=a+1: NEXT: CALL &9000
80 a=PEEK(&902D):PRINT z$;": ";:IF a=2 THEN PRINT"Binary"
90 IF a=1 THEN PRINT"Protected Basic"
100 IF a=0 THEN PRINT "Basic"
110 IF a>2 THEN PRINT"Ascii"
120 b=PEEK(&902E): c=PEEK(&902F)
130 PRINT"LOCATION:  &";HEX$(c);HEX$((b),2)
140 d=PEEK(&9030): e=PEEK(&9031)
150 PRINT"LENGTH:  &";HEX$(e);HEX$((d),2)
160 IF a=2 THEN f=PEEK(&9033)*256+PEEK(&9032):
    PRINT"EXECUTION: &";HEX$(PEEK(f+1));HEX$(PEEK(f),2)
```



Defining characters

I need help. I am trying to define my own characters from machine-code. I have established that to do this I have to set up a matrix table using `TXT SET M TABLE`. Then `TXT SET MATRIX` to define the character. Here is my coding: it doesn't work. Why?

```
ORG 40000

LD D,1          ;clear existing table
LD E,125        ;new table starts with character 125
LD HL,50000     ;table address
CALL &BBAB      ;TXT SET M TABLE
LD A,126        ;character to redefine
LD HL,table     ;address of eight bytes for matrix
CALL &BBA8      ;TXT SET MATRIX

table
DB &18,&18,&3C,&3C,&3C,&7E,&7E,&FF
```

Dave
Liverpool

The DE register pair contains the first character in the table: D should not be set to one – if anything it should read zero. You have set the table address far too high in memory. In fact, you've located it in screen memory: any operation involving character printing or other graphics functions will clear the table – and all character definitions from value 125. You have also missed a `RET` instruction:

```
ORG 40000

LD DE,125
LD HL,40960
CALL &BBAB
LD A,126
LD HL,table
CALL &BBA8
RET

table
DB &18,&18,&3C,&3C,&3C,&7E,&7E,&FF
```

Exercising......

Max

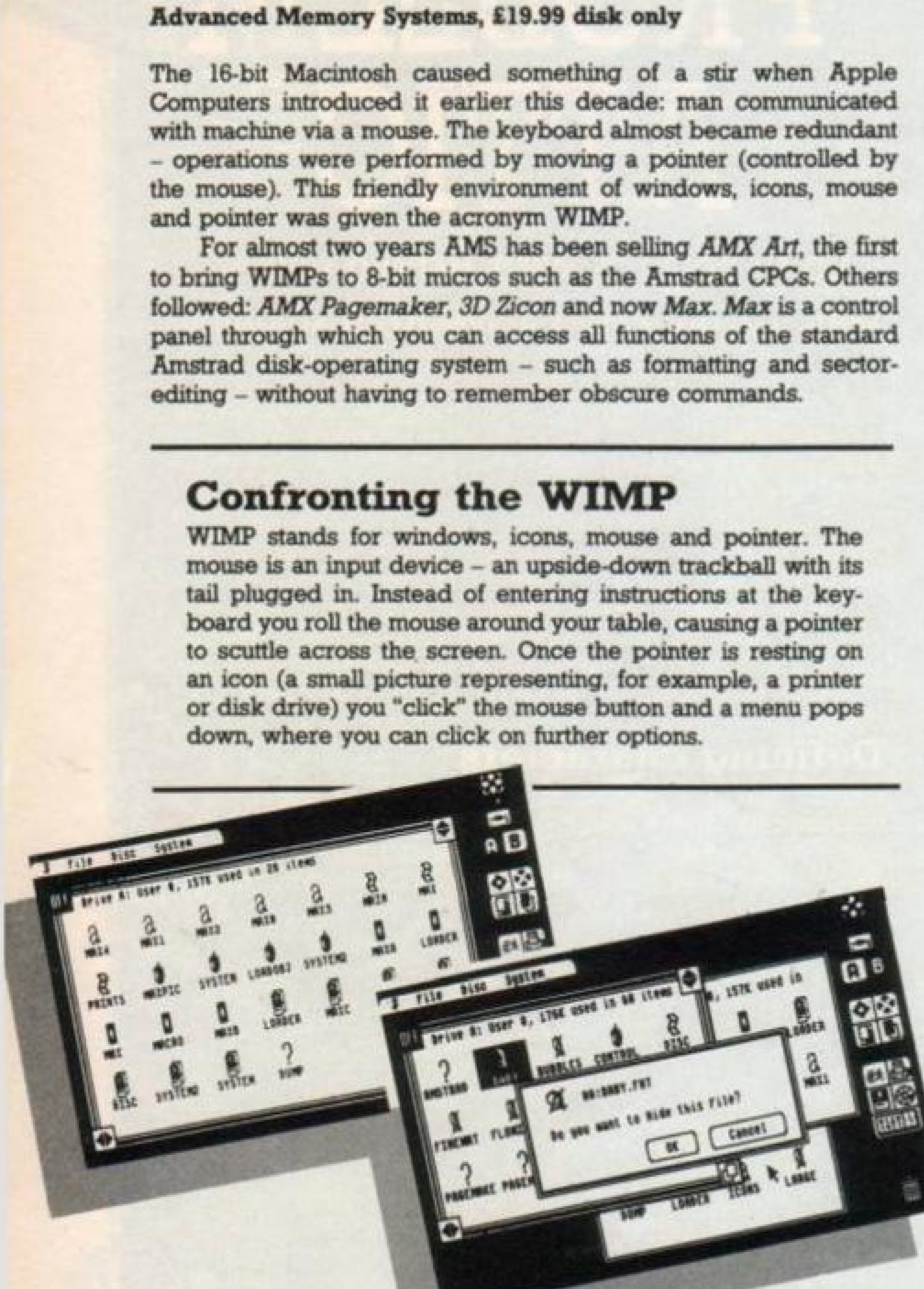
Advanced Memory Systems, £19.99 disk only

The 16-bit Macintosh caused something of a stir when Apple Computers introduced it earlier this decade: man communicated with machine via a mouse. The keyboard almost became redundant – operations were performed by moving a pointer (controlled by the mouse). This friendly environment of windows, icons, mouse and pointer was given the acronym WIMP.

For almost two years AMS has been selling *AMX Art*, the first to bring WIMPs to 8-bit micros such as the Amstrad CPCs. Others followed: *AMX Pagemaker*, *3D Zicon* and now *Max*. *Max* is a control panel through which you can access all functions of the standard Amstrad disk-operating system – such as formatting and sector-editing – without having to remember obscure commands.

Confronting the WIMP

WIMP stands for windows, icons, mouse and pointer. The mouse is an input device – an upside-down trackball with its tail plugged in. Instead of entering instructions at the keyboard you roll the mouse around your table, causing a pointer to scuttle across the screen. Once the pointer is resting on an icon (a small picture representing, for example, a printer or disk drive) you "click" the mouse button and a menu pops down, where you can click on further options.



When you load *Max* pull-down menus appear at the top of the screen and several icons come to rest on the right. A window announcing itself as Control Panel gets plonked in the middle of the screen. From the panel you can alter ink and paper colours, redefine keys or select joystick or change the sensitivity of the input device. Any options you alter can be saved, so that next time you load *Max* it will be set to your liking.

Max operates in the high-resolution mode and is graphically pleasing. The icons are well designed – some are even amusing. The way windows appear and disappear is stunning. But what really makes *Max* shine is that it can open windows anywhere on the screen and enlarge or reduce them. Icons can't be moved around – a pity.

Guided tour

The control icons on screen-right cause windows to open. The topmost icon gets you out of *Max* and back to Basic. The next represents a disk drive. It has the letters A and B underneath. Clicking the pointer over a letter selects either first or second drive. A further click will produce a window showing the disk's directory. The directory is displayed as a series of icons with the file's name beneath. For example, binary files show as an apple with a bite (byte) taken out of it; an assembly file is pictured by a chip.

Below the drive icon are a group of four that give certain control over windows: windows can be enlarged or reduced. More than one window can be open; by clicking the correct icon you can shuffle between windows or swap between the last two opened.

It is possible to run either Basic or machine-code programs from within *Max* by first selecting a file and then clicking the "run" icon. *Max* is the only program I know of that offers this function. And extremely handy it is too.

The other icons, bar the trashcan (you erase files by putting them in the bin), are duplicated in the pull-down menus.

Drop 'em, buster

The first pull-down menu, File, includes options for locking (equivalent to read-only), unlocking (read-write), hiding (people won't see the file in the directory listing), erasing, unerasing and renaming files. Files can even be sorted by type (Basic, binary, Ascii and so on) or alphabetically.

From the Disc menu it is possible to copy or format disks. The copier is held in a program separate to *Max*. Unfortunately it doesn't use the WIMP environment, which mars the overall effect. You have to reload *Max*.

Also included in the Disc menu is a powerful sector editor. Apart from being able to fiddle with directory sectors (or for that matter any sector), you can elect to view (and alter) all sectors belonging to a particular file.

The remaining menu is System. It allows you to alter the current user number.

There is much more to *Max*: multiple erasing, file copying, extended file information, hard copy of the directory or sector...

Although AMS tends to jump the gun, advertising or releasing products too soon, you are always guaranteed a well-written and easy-to-follow manual. AMS products are also of the highest standard, *Max* being no exception. It is a utility that looks good, performs well and has a wealth of features. Deserves to be seen on your Amstrad.

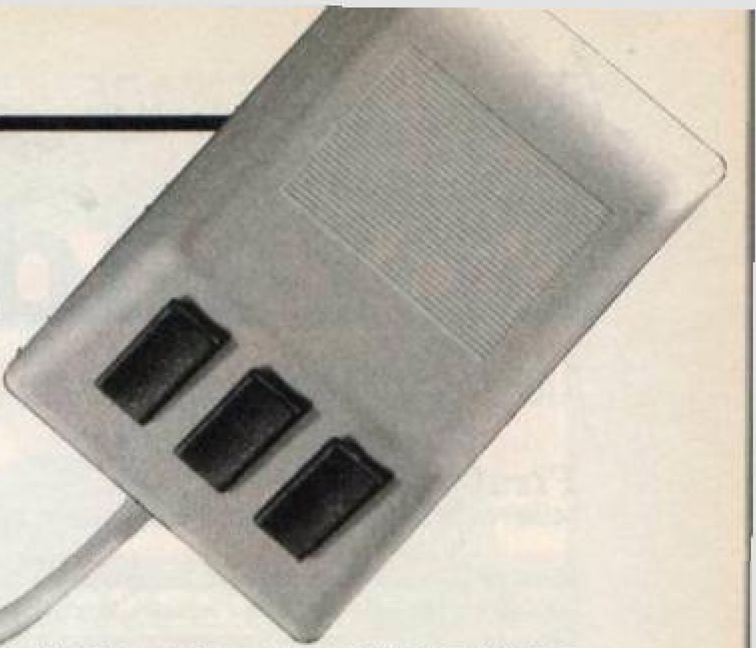
Desperately seeking Max

The name "Max" has been scurrying around corners at AMS offices long before the product was ever invented. First AMS splashed "AMX" over its wares – the letter X is far trendier than S. Technical manager John Simpson explained: "It all goes back to when Alex Blok designed *AMX Pagemaker*. He created a cute mouse icon at the top right of the *Pagemaker* screen. After performing the AMX shuffle it was given the name Max the mouse." And now Max "quick-click" Mouse lends his name to AMS's most recent product.

Advanced Memory Systems ☎ (0925) 41 3501
166 Wilderspool Causeway, Warrington, WA4 6QA

GOOD NEWS	BAD NEWS
■ Nicely designed control panel. ■ Windows open and close beautifully. ■ Manual is up to the usual high AMS standard. ■ Vast range of useful disk operations. ■ Joystick or keys will do, if you're mouseless.	■ Icons can't be shifted around. ■ The disk copier seems to have been put in at the last moment.

 Welcome to the thunderdome



pet mice

Create three-dimensional drawings with this package from the makers of *Max*

AMX 3D Zicon

Advanced Memory Systems, £24.99 disk – needs AMX mouse

But for a few packages such as *Pagemaker* and *Max*, there is precious little software that makes use of the AMX mouse. This is a sad tale, for the WIMP (windows, icons, mouse and pointer) system is one of the more pleasurable means of communicating with a computer. I'm thankful Advanced Memory Systems has kept releasing a slow but steady stream of WIMP software. *3D Zicon* is one that seems to have missed many reviewers' eyes.

Zicon is a graphics package that resembles Arnor's *Model Universe* – it lets you create vector or wire-frame graphics in three planes: *x*, *y* and *z* (is this why they've prefixed "z" to "icon"?) Make sure you have a pet rodent before heckling AMS – *Zicon* requires one of these creatures harnessed to Arnold.

Zicon's front panel consists of icons (small pictures that represent anything from a wastebasket to a calculator) and a pointer. You move this arrow by rolling the mouse over a desktop; when it's pointing to the option you want, tap one of the mouse buttons. A window then drops down and displays a menu – all in true WIMP style.

Most of the screen area is for your design. There are command icons along the bottom, and the pull-down menus appear obviously at the top. There are four of these menus:

- **File** lets you load, save or catalogue files.
- From **Utilities** you can create tubes or spheres, or edit your picture.
- **Status** lets you alter the distance from centre of rotation, distance moved when selecting zoom icon or angle of rotation when using the rotation icons.
- With **Output** you can dump pictures to printer, screen or plotter.

The command icons enable the model or design to be rotated, zoomed or repositioned. They are split into two distinct groups: the first lets you rotate the model in either *x*, *y* or *z* planes – both clockwise and anti-clockwise. You can also zoom toward or away from the centre of rotation. The second group moves the model up, down, left or right.

Although *Zicon* doesn't have an outstanding number of functions, complex designs can be produced without much trouble. Zooming or rotating a picture is slow, especially if is made up of many lines. On all other fronts *Zicon* performs satisfactorily.

Advanced Memory Systems ☎ (0925) 41 3501
166 Wilderspool Causeway, Warrington, WA4 6QA

GOOD NEWS	BAD NEWS
■ Uses friendly WIMP environment. ■ Manual is well-presented and readable. ■ Simple to produce eye-catching designs.	■ Mouse required. ■ Certain operations slow the program.

Bargain's the word

Brunword 6128

Brunning Software, £25 disk – 6128 or expanded 464/664 only

Back in December '85 Chris Anderson reviewed *Brunword* in *AA*. He concluded that the word-processor fell down on several fronts: user-unfriendly, no automatic word-wrap, text could be entered only in 40 columns, right-hand justification couldn't be turned off... The only thing it had going for it was the price (£16.50 tape and £25 disk) and an inbuilt spelling-checker (which could hold only 7,000 words).

Brunning Software has re-emerged with a new version, *Brunword 6128*. And first impressions are favourable, starting with the clever tutorial on the disk.

The new *Brunword* requires a 6128 computer or a 464 with DK'tronics expansion ram. The reason is that the spelling checker and dictionary make use of the second memory bank – a good idea as you don't have to wait while it loads from disk when you need it.

Text can be entered in either 40- or 80-column mode. And words automatically wrap over. There is extensive cursor control and movement is generally fast, but moving up or down a line is relatively slow.

Margins can be set anywhere for the whole text or individual paragraphs. The justification system is better than that found on *Tasword* or *Protext*: rather than padding out a line with spaces from left to right, it alternates from left to right towards the centre of the line, giving the text a more balanced look.

Particularly nice is *Brunword*'s way with superscript and subscript. Things like H_2SO_4 and $a^2 = x^2 + y^2$ appear in true size on screen and on the printer. It's a pity this wasn't taken one step further, to display **bold**, *italic* and underline on screen.

You have extensive control over documents sent to the printer: multiple copies, appropriate headers and footers for odd and even pages. You can even redefine 10 characters, which display on screen and print (if your printer is capable of this feat). Maximum filesize is about 10 pages, but you can link several files when printing.

The spelling-checker has a dictionary of about 30,000 words, with room for another 5,000. Its beauty is its speed: it's memory-resident. Pressing a key will check the spelling of the word under the cursor – handy.

Brunword 6128 represents real value for money. A word-processor, spell-checker and data-file (to do "personalized letter" tricks) for £25. Not only does it outperform many word-processors on the market, but it's friendly and fast.

Brunning Software ☎ (0245) 25 2854
34 Helston Road, Chelmsford, Essex, CM1 5JF

GOOD NEWS	BAD NEWS
■ Extensive tutorial files and informative manual. ■ Cheap, considering spell-checker and data-merge are included. ■ Can check spelling of word at the press of a key. ■ Subscript and superscript appear on screen. ■ Everything we faulted in the original system has been rectified.	■ Works only on 6128 or expanded 464/664. ■ Centring a single line takes time. ■ Cursor is sluggish when moving in line increments. ■ Can't read files from other WPs.

...and the mouse got caught in the clock

Spread'n'butter

Richard Monteiro discovers that using a spreadsheet saves wear on fingertips

First Calc

Minerva Systems, £29.95 disk only – CPM Plus only

Minerva Systems is best known for its software on the Amsrad PCW (and more recently the PC) – namely *First Base* and *LernLoco*. *First Calc* is its only program that works on both the CPC 6128 and the PCW machines. It runs under CPM Plus: if you don't have a disk drive, 128k memory and access to a CPM Plus system disk then forget it.

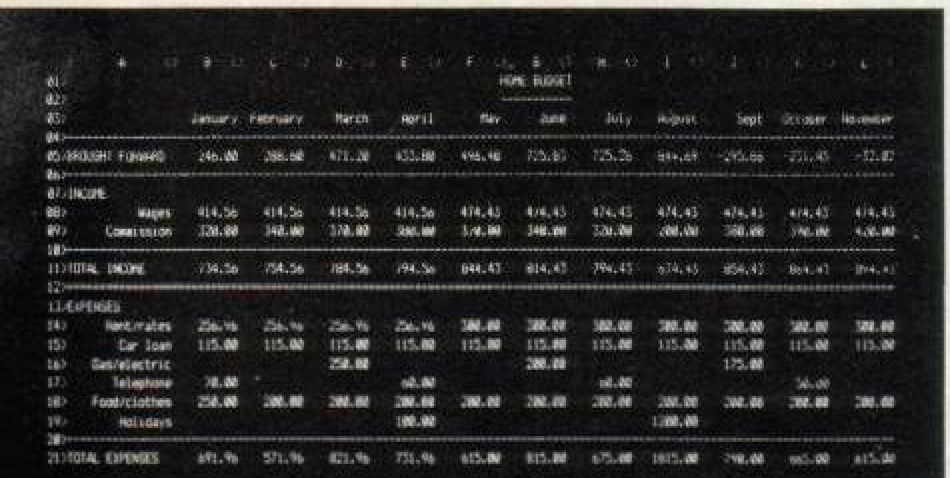
Spreadsheets are essentially tools for planning and reporting finances. With little effort on your part they make ideal personal organizers, cost estimators and simple accounts packages. *First Calc* is of the same genre as *Cracker*, *Scratchpad Plus* and *Supercalc 2*. It is very much the baby of the bunch: it offers less in terms of power, but promises a low-cost and gentle introduction.

Spreading the word

Boot up your CPM Plus system disk, insert the *First Calc* disk into the drive and run the startup file. This is the natural reaction when a product falls on my desk. Once the program's up and running, a blank expression usually crosses my face. I say "usually" because on the odd occasion programs are so simple they need no reference guide. *First Calc* is one of these rare examples: the command structure is obvious and moving round the sheet is painless.

The manual accompanying *First Calc* has a pretty cover, but little else is art. The typeface is scarcely better than that produced from a Sinclair thermal printer – highly off-putting. Still, it's the quality of the written word we're interested in, not its appearances.

First Calc's manual concentrates much on what a spreadsheet is and how it can be used. Many more pages are taken up describing simple computer terms. On the whole it provides an excellent front-end for the computer novice and non-technojunkie.



	A	B	C	D	E	F	G	H	I	J	K	L
01							HOME BUDGET					
02												
03		January	February	March	April	May	June	July	August	Sept	October	November
04												
05	BROUGHT FORWARD	246.00	288.68	471.20	433.80	494.46	725.85	725.26	694.69	-295.66	-231.45	-32.02
06												
07	INCOME											
08	Wages	414.56	414.56	414.56	414.56	474.43	474.43	474.43	474.43	474.43	474.43	474.43
09	Commission	320.00	340.00	370.00	380.00	370.00	340.00	320.00	200.00	380.00	390.00	420.00
10												
11	TOTAL INCOME	734.56	754.56	784.56	794.56	844.43	814.43	794.43	674.43	854.43	864.43	894.43
12												
13	EXPENSES											
14	Rent/rates	256.96	256.96	256.96	256.96	300.00	300.00	300.00	300.00	300.00	300.00	300.00
15	Car loan	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00
16	Gas/electric			250.00			200.00			175.00		
17	Telephone	70.00			60.00			60.00			56.00	
18	Food/clothes	250.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
19	Holidays				100.00				1200.00			
20												
21	TOTAL EXPENSES	691.96	571.96	821.96	731.96	615.00	815.00	675.00	1815.00	790.00	[illegible]	615.00

Calculating spread

First Calc resides in memory: it doesn't rely on overlays. This speeds up operation considerably. The only time you'll hear the drive whir is when loading or saving.

Spreadsheets are divided into many boxes called cells – identified by row number and column letter. Numerals, text and formulae can be entered into cells. Text performs no task in a spreadsheet, but is used merely for labels or headings. For example, it can be used to identify sections of data: "Monday, Tuesday, ..." You need formulae to perform calculations on cells. These can be simple things that could be keyed in on a calculator or complex equations involving groups of cells.

Entering data into *First Calc*'s cells couldn't be easier: move the cursor using the arrow keys until you reach the required cell, then type.

First Calc lets you use a maximum of 52 columns by 99 rows (just over 5,000 cells) – quite enough for home or small-business use. Once you've outgrown *First Calc*, you can port the data to a more powerful sheet: data is saved in straightforward Ascii form. Formulae can use standard operators – add (+), subtract (-) and the like. And of course there are built-in functions: SUM (total), AVG (mean) and MAX (maximum value). And that is the sum-total: no provision is made for logic, trignometric or even logarithmic operations – this is quite limiting, considering that numbers up to 10^{38} can be entered, and calculations are carried out to 14 significant figures.

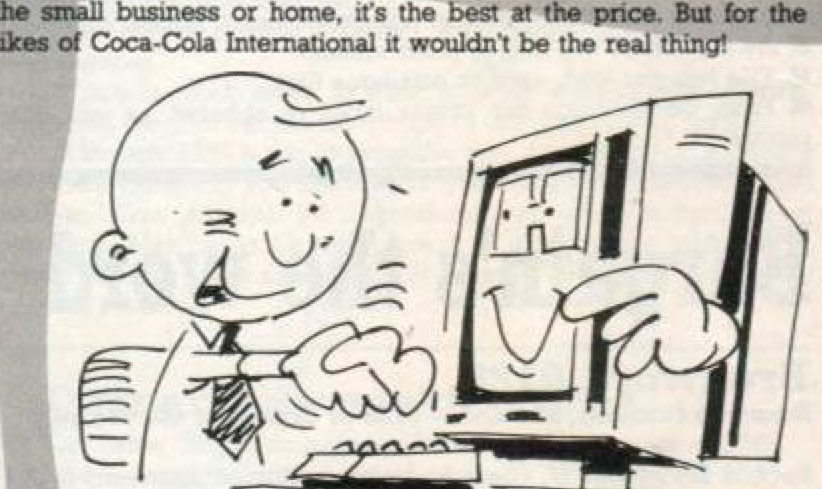
Seen to spread

If you are ever stuck, you can call up a help screen showing all the control commands.

With the 15-odd commands available you can erase a range of cells, delete certain rows and columns, edit formulae, select automatic calculation of the sheet and of course load, save and print data. It is unfortunate that Minerva hasn't incorporated a "sideways print" option – it is much neater to have the complete sheet across several pages rather than having to cut and paste bits together.

First Calc performs admirably, the price is unbeatable and it is simple to use – I wouldn't go as far as saying it's child's play. In fact *Supercalc 2* is as easy if not easier to use.

As only basic formulae are accepted and the sheet just tops the 5,000-cell mark, you'll eventually want to move to a more sophisticated package. As a first spreadsheet, or even a tool for the small business or home, it's the best at the price. But for the likes of Coca-Cola International it wouldn't be the real thing!



What is it?

First Calc is a spreadsheet. This is simply computerized pen, paper and calculator. Rather than keeping the year's cashflow or stock records on bits of paper, you can keep the lot on computer. In fact most numeric tasks performed on paper can be transferred to a spreadsheet. The obvious advantage is speed. Less obvious is the ability to project: to forecast what you can and can't spend in future months.

Minerva Systems ☎ (0392) 37756
69 Sidwell Street, Exeter, EX4 6PH

GOOD NEWS

- Manual is easy reading for novice.
- Command keys are obvious and soon learnt.
- Does the same as other spreadsheets for a fraction of the cost.

BAD NEWS

- Not possible to print results vertically.
- 5,000 cells may be limiting.
- Limited formulae options.



Spready, ready, go... Ready, spready, go... Ready, steady, spready



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Pocketful of words

Richard Monteiro tries out a new version of *Protext* and pockets the difference

Pocket Protext

Arnor, £39.95 disk only – 6128 and PCW only

Arnor has more versions of its word-processor, *Protext*, than personnel. Another has just been added to the heap: *Pocket Protext* – and Arnorians say it's so new they didn't know about it a month ago. But is there any room or need for it?

What's the difference?

Early versions of *Protext* work under the Amstrad CPC operating system. When the PCW machine came along, Arnor decided on a version of *Protext* specially tailored to work from its operating system, CPM Plus. The price is a hefty £79.95, but includes a spelling checker and mailmerge facility. The package works on the 6128 machine – or other CPCs that have upgraded to 128k and CPM Plus.

With *Pocket Protext* the spelling checker and mailmerge function have been removed, leaving a cheaper package to run under CPM Plus. You can still purchase *Prospell* (the spelling checker) and Promerge (mailmerge) at a price.

Text files are interchangeable between the two versions.

The *Pocket Protext* disk is jam-packed on both sides with files. Side one contains *Protext*, configuration and setup files as well as several useful utilities. The reverse contains tutorial files. Typing *Protext* at the CPM's `A>` prompt will let you start using the word-processor; however, this is not advisable: it is all too easy to corrupt the master disk. It's sensible first to create a workdisk – not all the files are necessary – and store the master safely away.

Apart from a slightly increased loading time, *Pocket Protext*'s front end is identical to earlier versions. If you have used *Protext* before, you'll feel at home with the *Pocket* version: command mode still exists (and many of the old commands); all the control commands are identical; document mode and program mode still exist (in documents all stored commands, ruler lines and printer control codes are obeyed at the time of printing or formatting, whereas program mode displays them literally). Of course many frills have been added making *Protext* more competent than ever – unfortunately it still isn't a true "what you see is what you get" system that shows underline, bold and the like on screen.

The new manual is an A5 looseleaf binder that makes the old version's booklet, though adequate, look a bit tacky.

New functions

From the command mode you can load, save, merge and print files as with the original *Protext*. However, many handy additions have been made:

- You can `SWAP` between two documents in memory.
- `TYPE` displays the contents of an Ascii or *Protext* file on screen.
- `SERIAL` redirects printed output to the serial interface.
- `PRINTQ` causes printing to take place in near-letter quality.
- `DCOPY` loads a utility file that lets you copy disks.
- `DFORM` will format a disk.

There are other commands. For example, `PHRASE` lets you store often-used text or commands on a key. There are 31 phrase-keys. A number of these are pre-defined, such as cedilla (¸), diphthong (æ), umlaut (¨). You are left with 26 definable keys. Each key can have up to 255 characters assigned to it – enough for most purposes.

The `HELP` command has been altered. It displays a menu from which you can choose further help files regarding disk, external and printing commands.

It is possible to execute a CPM program from *Protext*'s command mode by placing an asterisk (*) before the filename. The current text will be saved as a temporary file and passed to the program being executed. Using this function you can create assembly files and transport them to *Maxam II* – handy.

External commands

The utilities on the disk can be thought of as external commands: enter a filename and the program will execute. However, unlike normal CPM applications you'll return to *Protext* and the original text. On the disk are Config, Convert, Dcopy and Setprint.

Config creates a configuration file that *Protext* searches for when it first loads. This file holds information on the *Protext* setup. For example, you can switch off justification, choose word-wrap, select colours, alter un-delete buffer size, set printing options, define the size of the phrase-key buffer, set keys... In other words, Config lets you customize *Protext* to your liking – very powerful, yet very easy to use.

With Convert you can transform *WordStar* text files to *Protext* files, *WordStar* to Ascii and Ascii to *Protext*.

Protext has extensive editing functions. These are usually accessed by holding down Control and pressing another key. Among the new features, Control-O copies a block from a specified file into the current document, Control-Y switches between documents in memory and Control-number inserts an accent of sorts into the text.

Printing options

Within a *Protext* document it is possible to have stored commands. These alter the manner in which text is sent to the printer. The Config and Setprint programs can be used to change these printer functions. You usually set them once and for all; the stored commands are there in case you need to stray from the norm.

A simple effect such as defining the amount of footer space at the bottom of the page would be achieved by placing `>FM 3` as a separate line somewhere in the document. *Pocket Protext* has a few interesting additions to this section. Microspaced text is notable here – this feature, usually found only on expensive "professional" word-processors, sends text to the printer justified with proportional spaces between words. Another addition allows printer control codes to be redefined during print-time. A further new command will print a named file in the middle of printing the current document.

Pocket Protext is really designed for the Amstrad PCW, which has no choice of operating system but CPM. The CPC machines can also use the original Amsdos version of *Protext* – on tape for only £20, disk £27 or the instant-loading rom at £40. Its maximum filesize is 23k, about 3,000 words, three pages of *AA* (39k with rom); the whole disk is the limit with the CPM version: 178k in ordinary data format. Otherwise, *Pocket*'s main pluses are its ability to handle two files at once and to format a disk – will Arnor add these features to the Amsdos version? No, we're told.

Pocket Protext has widened the gap between *Protext* and rival word-processors for the CPC, creating a grand canyon. The vast range of commands, powerful printing options and ease of use ensure nothing will bridge the chasm for a long while.

Arnor Ltd ☎ (0733) 23 9011
Protext House, Wainman Road, Peterborough, PE2 0BU

GOOD NEWS

- Hard to believe you are working from CPM.
- Long files possible – limited only by space on disk.
- Can operate on two files at once.
- Powerful printer-driver.
- Configuration file can be constructed.

BAD NEWS

- Extra wait for CPM to load.
- Lengthy files can slow work-rate.
- Rom version not possible.
- 464 and 664s need CPM Plus.

Banner headline

We fly our name a foot high, testing a sign-writing utility

Tas-Sign

Tasman Software, £29.95 disk only – 6128 and PCW only

Tasman has diverted much of its attention to the PCW and PC market. A look at its latest product, *Tas-Sign*, illustrates this. It works under CPM Plus, which means only on the 6128 and PCW machines. True, you can still use Tasman's latest on other CPC machines if you have memory expansion, disk drive and can purloin the CPM Plus system disk.

And of course you need a printer. The purpose of *Tas-Sign* is to design posters, notices or banners on screen and send them to the printer – which simply prints sideways on as much continuous paper as you like.

Most CPM application programs, *Tas-Sign* being no exception, require a certain amount of setting up or customization before they are ready to run. Fortunately the *Tas-Sign* configuration program only needs information regarding the make and model of your printer.

Boot up your CPM Plus system disk, insert the *Tas-Sign* disk and run the configuration program. A list of dot-matrix printers, ranging from an Admate DP-100 to a Walters WM80, will present itself. A keypress is all that is required if you own one of the named printers. If you don't then all is not lost: you can delve deep into your printer manual and supply the configuration program with the codes for setting graphic line-spacing, selecting bit-image graphics and so on.

Signing on

Run the *Tas-Sign* program, wait a few minutes for the printer-driver and font files to load and you're ready to start designing posters. The work-screen consists of an options menu at the top followed by five boxed lines. The boxed lines hold your text that will eventually reach the printer.

If the mass of on-screen characters is too much to take in, then a glance at the manual is sensible. Rather than having chapters dealing with the commands and what they do, Tasman introduces you to commands in the form of a series of tutorials – probably the best way to familiarize yourself with a system. There are reference sections once you've mastered the basics.

You can simply enter text for your notice or poster once *Tas-Sign* has loaded; pressing Escape sends all the data to the printer. If you use *Tas-Sign* in this manner, you'd miss out on many of its wonderful features. From the options menu:

- **Font** lets you choose any of four character styles: Standard, Western, Block and Casual.
- **Orientation** determines the manner in which text is printed – either horizontally or vertically.
- **Italics** gives your text a slant.
- **Reverse** prints white lettering on a black background.

Many other options exist. For example, you can define the spacing between characters – either proportional (spacing between right edge of one letter and the left edge of the next is the same as for any pair of letters), kerned (allows character overlap) or constant. You can also elect to print with double-strike or double-density – both enhance output.

Text sent to the printer can be virtually any size: there are options to stretch and lengthen characters.

Embedded commands

If you want words or characters to print in different styles, heights or even spacing you will need to use embedded commands. You place these with the text. Say you wanted to print "Hello" using the standard font and "there" in Block font: `Hello \Fblock\there.`

All the options can be accessed using embedded commands. So you can underline, stretch, italicize, and centre to your heart's content. Embedded commands are powerful – with a bit of practice you'll be producing quality material.

When entering text there are several editing features to assist you. All are accessed by holding Control and tapping another key. Many word-processors have a comprehensive set of cursor-movement keys – so has *Tas-Sign*. You can also insert text, save or load a document and switch into an alternative character set. The extra characters are useful, giving you numerous foreign letters and symbols.

The many printer utilities on the market have some form of editor for the user to produce new characters designs. Not so with *Tas-Sign*. You are stuck with four fonts. Apart from that small gripe, *Tas-Sign* performs admirably.

Tas-Sign scores in the user-friendly and simple-to-use department: the manual teaches and has handy reference sections. Even the program can be learnt quickly and without too much grief. As for usefulness: if you need to create eye-catching banners or notices then *Tas-Sign* is more than efficient.

Additions

The manual suggests that *Tas-Sign* is capable of storing 16 fonts in memory at one time. Only four are supplied on the disk and there is no editor to create new ones – a pity. However, Robin Thomson at Tasman says that later in the year packages with extra fonts will be available. There are no plans to sell a font editor as Robin claims, "It would be too slow under CPM."



Tasman Software ☎ (0532) 43 8301
Springfield House, Hyde Terrace, Leeds, LS2 9LN

GOOD NEWS	BAD NEWS
■ Works with virtually any dot-matrix printer. ■ Produces decent posters with little effort.	■ No font editor: can't create your own character styles. ■ Works under CPM Plus only.



HOT TIPS

Save space for strange characters on a poster and wend your way to a working Quickshot

Character continuum

Here are a few more character sets to complement the ones sent in by Alastair Scott (*AA* 21).

```
10 SYMBOL AFTER 1:FOR t=HIMEM TO HIMEM+(8*255)
20 POKE t,PEEK(t) XOR 255:NEXT
30 CLS:PRINT"Amstrad Action"
```

To get different results replace line 20 with:

1: `20 POKE t,PEEK(t) XOR 254: NEXT`

2: `20 POKE t,PEEK(t) XOR 15: NEXT`

Try this:

```
10 SYMBOL AFTER 1: FOR t=HIMEM TO HIMEM+(8*255) STEP 8
20 FOR s=t to t+3: POKE s,PEEK(s) XOR 255
30 NEXT s,t: CLS: PRINT"Amstrad Action"
```

David Hall
Stretford, Manchester

Wend your way a while

Many programmers neglect the versatility of the WHILE-WEND loop. I have compiled a list of some of its possibilities.

Most of you make use of the fact that the loop will repeat as long as the WHILE statement is true – for example, `WHILE INKEY(50)` (meaning repeat action until R is pressed) : `WEND`. But if the WHILE statement is already false on reaching the loop, the program will jump past it – ignoring anything listed between WHILE and WEND. This makes it ideal for certain subroutines such as the following error-trap:

```
10000 flag=1: WHILE INP(&F500) AND 64
10010 IF flag=1 THEN PRINT CHR$(7): flag=0
10020 LOCATE 1,1
10030 PRINT "*PRINTER OFF-LINE*"
10040 WEND: RETURN
```

Here, once the error is corrected (by setting the printer on-line), the subroutine will automatically return to the main program. But if the printer is already on-line, lines 10010 to 10030 will be ignored and the trap not activated.

The following one-liner demonstrates another use. See how an odd sequence of operations can be run using nested loops and the same jump-past principle:

```
10 a=0: WHILE a<12: WHILE a<>5 AND a<9: PRINT a;"IN":
   a=a+1: WEND: PRINT a;"OUT": a=a+1: WEND
```

WHILE and WEND can also be used for the conditionally endless incrementation of variables, for example, `a=0: WHILE <statement>: <do something>: a=a+5: WEND`. The use of a flag – as in line 10010 above, which sounds a bell – will allow an operation within the loop to be switched off after one or more passes. Finally, an endless main controlling loop can be set up by the use of `NOT`: `WHILE NOT finished: <rest of loop>: WEND`.

JD Crabtree
Darlington, Co Durham

Joystick check

I own a Quickshot II Turbo joystick and had problems with it: the letter Z appears on start-up, the computer won't reset, continuous fire on *Elite*... I decided to set about the problem using this routine:

```
10 FOR a=&2000 TO &2006: READ b$: POKE a,VAL("&"+b$): NEXT
20 CALL &2000:LOCATE 1,1:PRINT BIN$(PEEK(&3000),8):GOTO 20
30 DATA CD,24,BB,32,00,30,C9
```

The program uses a firmware routine which asks for the state of the joystick, that is, whether it is moved up, down, left, right or Fire is pressed. The result (in binary) is printed at the top of the screen.

Run the program without the Turbo connected and you should see eight zeros – this is the result you'll get with an Amstrad-compatible joystick.

As soon as the Turbo is plugged in, the sixth zero (from the right) changes to a one – indicating a fault with the joystick. Waggling the joystick causes the five rightmost zeros to change to ones depending on the state: (from right to left) one=up, two=down, three=left, four=right. The fifth zero corresponds to Fire two and the sixth to Fire one. Pressing Fire causes the fifth zero to change, which means the Turbo uses Fire two as its Fire button.

To fix the Turbo, open up the stick and break the red-wire connection; make sure you insulate the break, reassemble the joystick, run the test program. All the digits should read zero – a properly functioning stick.

If your joystick is playing up, it shouldn't be hard to mend with the aid of the small routine.

DW Rostron
Helensburgh, Scotland

Poster printing

This program sends text to the printer, enlarging the text and printing it vertically down the page. Ideal for creating banners or posters. There is one restriction: you may not enter more than 80 characters.

```
10 MODE 2: INPUT"";a$
20 FOR a=0 TO (LEN(a$)*8): FOR b=1 TO 2
30 FOR c=384 TO 399 STEP 2: t=TEST(a,c)
40 IF t=0 THEN PRINT#8,SPACE$(10);
50 IF t=1 THEN PRINT#8,STRING$(10,"a");
60 NEXT: PRINT#8,CHR$(13);CHR$(11);: NEXT: NEXT
```

Paul Bower
Newbury, Berks

Saving space

I have discovered that when copying text (using the copy-cursor method) extra spaces at the end of Basic lines are also accidentally copied. This isn't the only way additional spaces can creep into a Basic listing: during the normal course of programming it is easy to press the spacebar a couple of times before hitting Return.

Each space is an Ascii character and consequently takes up one byte of memory. It is possible to slim your program by taking the following steps:

- Load your Basic program.
- Type `SYMBOL AFTER 32: SYMBOL 32,255,255,255,255,255,255,255,255` followed by Return.
- List the program. Spaces will be shown as a solid square.
- Rewrite the lines with too many spaces and save the program.
- Enter `SYMBOL 32,0,0,0,0,0,0,0,0`

It depends how many extra spaces you found, but the program should be considerably shorter and will execute faster.

David Marek
Edinburgh

Switch screens

The following routine will set the position of the screen memory in ram. You can have two screens in ram at any one time – and switch between them instantly. The high screen starts at &C000 (default) and the low screen at &4000. To use the high screen call &A000; for the lower one call &A006.

To load a picture to the high screen use `LOAD "filename", &C000` and for the low screen `LOAD "filename", &4000`.

```
10 DATA 3E,C0,CD,08,BC,C9,3E,40,CD,08,BC,C9
20 FOR T=&A000 TO &A00B: READ A$: POKE T,VAL("&"+A$): NEXT
```

Stephen Lawson
Stoke-on-Trent, Staffordshire

The line exists

As you know, there is an error in Basic 1.0 (on 464 machines), that doesn't allow you to use the bar (|) symbol in a REM statement. Well, after a short hacking session I came up with an answer:

To use the bar in a REM statement that makes part of a listing, do this: one of the first lines must read `POKE 32511, 201`. After typing |, leave a space, then enter the rest of the text. For example:

```
10 POKE 32511,201
20 REM | It works
```

Phil Stockdale
South Humberside

Cursor positioning

Okay, folks, here is a remedy for all the people trying to write the ultimate program in one line. When you edit a line try this:

- Control-← or Control-↑ – send cursor to start of line
- Control-→ or Control-↓ – send cursor to end of line

Big Al
Solihull, West Midlands

Getting at fractions

I understand that many people are having trouble printing fractions on their printers. If you have an Amstrad DMP 2000 or 3000, this program will let you print them:

```
10 MODE 1: INPUT"Numerator ";a: INPUT"Denominator ";b
20 c=a+48: d=b+48
30 PRINT #8,CHR$(27);"x";CHR$(1);CHR$(27);"S";CHR$(0);
40 PRINT #8,CHR$(c);CHR$(27);"T";CHR$(8);CHR$(27);"S";
50 PRINT #8,CHR$(1);CHR$(d)
```

Before running the program, put the printer on-line. To the Numerator prompt type the top part of the fraction (between 0 and 9), and for Denominator the bottom part of the fraction (again between 0 and 9). The fraction will be printed in NLQ (near-letter-quality). It shouldn't prove too difficult to incorporate this into your own listings.

David Giles
Wokingham, Berkshire

HACKERS ONLY

When trying to find an infinite-lives poke, the hardest part is overcoming protection systems – finger-chewing and hair-pulling is just the beginning. Phil Howard, master poker, shares his fruits of a thousand sleepless nights...

The section that brings the CPC's darkest secrets to light. If you don't understand what's written here, bad luck. You'll get no explanation, for this is where the hackers hang out.

Disabled interrupts dilemma

The Amstrad CPC system uses the restarts, jump-blocks, alternate registers and several other locations in ram. Normally, with interrupts enabled, you cannot tamper much with these areas without causing problems. You can, however, change anything if you disable interrupts (something protection systems often do) – you lose control of Basic, rom calls and other things, though. My advice is to write a set of utilities which run without interrupts.

While the computer is processing a line of Basic or a direct command, it copies the instruction into a buffer (&ACA4 on the 464). When there was only the 464 machine, some protection systems used this fact to ensure that the last command issued was `RUN"` by XORing these four bytes against some other vital part of the routine. This technique is still used, but not necessarily in this form.

It is as well to know how XOR sequences work. This is one of the many ways:

- Take seed number.
- XOR first byte of program with seed.
- Alter first byte to result.
- Alter seed to result.
- XOR second byte of program with seed.
- Etc.

This not only runs through the program altering it byte by byte, but also ensures that it is not tampered with on the way.

Cheating XOR

Often protection systems contain a series of sequential XORing routines. Each of these XOR the remainder of the program – normally revealing the next section which it then runs into. For flexibility these routines use relative jumps and loops: you can relocate the first XORing routine, use it in isolation (under your control), relocate the newly revealed second routine with the first... Like this you can uncover the entire system which, when run, acts as the original program.

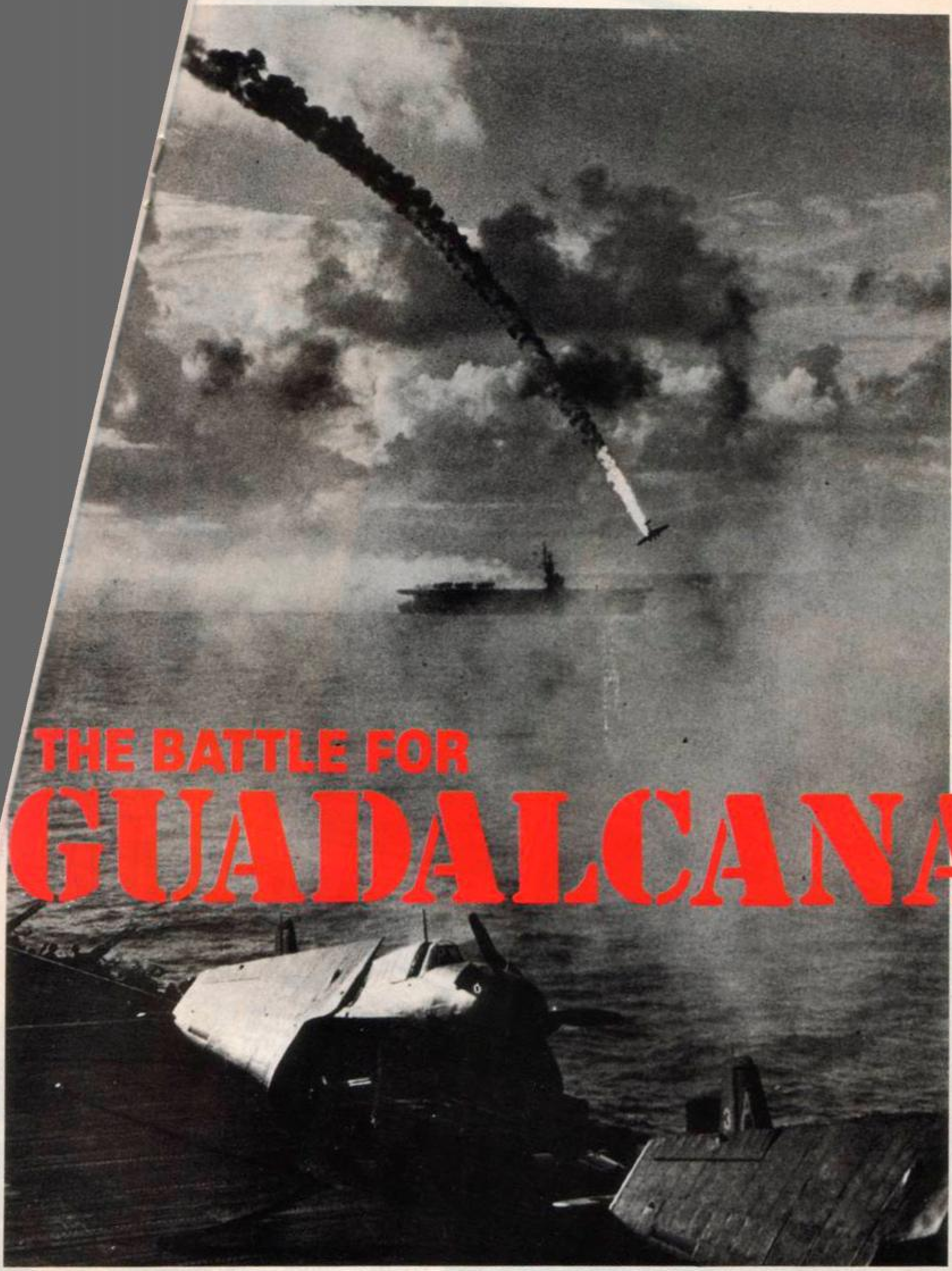
Beware of XORs against the screen and areas where you place your routines.

Desperately seeking lives

It may seem obvious, but patching the jump-block is one of the best techniques for regaining control after a protection system has done its stuff. Take care, as some systems check for alterations to &BD37 (JP RESTORE) before calling it.

Program loaders sometimes overwrite the jump-blocks; it is useful to bear in mind that the three-byte RST instruction locations can be relocated and used direct in a routine to perform standard ROM calls.

If you encounter use of the R (refresh) register in a protection system, chances are it is being used to count the clock pulses between two points in a program: normally to generate a seed number for an XOR sequence – any instruction you introduce into the code will upset the count and corrupt the program.





The game display is best described as two halves. All general information about the game is in the top half while control of units and info on them are in the lower half.
To the top right you will see a clock face. This runs at a speed of 1 minute for every 10 seconds of real time. The clock NEVER stops.

THE BATTLE FOR GUADALCANAL

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Industrial Estate, Wellingborough, Northampton NN8 4SR

Computer software program – Guadalcanal – designed by
Ian Bird, developed in collaboration with Alan Steel

CHEAT MODE



Dick'n'Bob check out your tips, hacks, pokes and game-busting ploys. The best ones could win an entire issue's *Amstrad Action* Raves! So why not send *your* latest gem for *AA* to test? Send to: Cheat Mode, *Amstrad Action*, 4 Queen Street, Bath, BA1 1EI



NINJA

Getting to the end of the Mastertronic game isn't easy so here are some tips from **Jay Sowdon** of Headley.

First pick up the three tools and go through all the screens on the first level picking up the idols. Go up and continue until you reach Akuma's Chamber where the last of the seven idols is. Now you have to return to "Torit on the sea". Be careful every time you re-enter a level because the enemy will have come alive again.

The best move is the punch because it's the quickest. When using weapons throw them and leave the room at the left or right. Then re-enter. Your opponent will have lost strength and the weapons will be ready for you to pick up and use again. Idols replensih strength so try to find them when your energy is low.



Poke method for tape

All this month's Cheat Mode tape pokes use Method 1. If you have a 664 or 6128 first type |tape. Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press Enter (without using the key marked CTRL or Control). Press Play on the cassette deck, then any key on the main keyboard. The tape should now start to play through in the normal way.

10th Frame

Paul Evans of Leeds has a tip for getting a strike every time on the US Gold bowling game. Play the novice level. When the bowler appears tap him one space to the left. Do the same for the aiming cross, being careful in both cases that it is only one tap. It's particularly easy to move the cross too far so keep an eye out. The hook won't affect the ball on novice level and whatever the strength all the pins should fall.

Grand Prix Rally II

J Hall of Leicester has some advice on surviving this old game. Just drive as far as possible on the right of the road and you'll miss the other cars. You can't do this on the water circuits. Slow down for right turns to avoid drifting out but go full-tilt on the left bends.

PROJECT FUTURE

Livingston houses poker **Owen Cunningham**. He has supplied you with a Method 1 poke for Gremlin's shoot-em-up-and-search game. The poke gives infinite lives.

Owen's warning: "When playing the game always leave rooms near the bottom. Do this because there is a bug in the game where you get stuck in the wall after leaving a room – annoying if you've got all the code."

```
1 ' Project Future
2 ' by Owen Cunningham
3 ' Amstrad Action  Sept 87
10 MODE 1:OPENOUT"d"
20 MEMORY 499:LOAD"pfuture"
30 POKE &A107,&C9:CALL &A0F0
40 POKE &9876,0:CALL &9FB8
```

LOCO-MOTION

Here is the first of **Owen Cunningham**'s golden-oldie pokes. It's for Mastertronic's train game. Using Method 1 you are given infinite train-pause time. Pressing Fire pauses the game; another stab at the Fire button restarts.

```
1 ' Locomotion
2 ' by Owen Cunningham
3 ' Amstrad Action  Sept 87
10 MEMORY 4999:MODE 1
20 PRINT"Loading: Please Wait..."
30 LOAD"!data1",5000
40 LOAD"!data2",29000
50 LOAD"!data3",33000
60 LOAD"!data4",36000
70 POKE &951A,0:POKE &951B,0
80 POKE &9524,0:POKE &952E,0
90 POKE &953C,0:POKE &953D,0
100 POKE &953E,0:CALL 29000
```



Zub

Another Mastertronic game bites the dust thanks to **Richard Hodges** of Barnet. Endless (makes a change from infinite) lives, number-of-platforms choice and removal of droids are the capabilities of this Method 1 poke.

```
1 ' Zub
2 ' by Richard Hodges
3 ' Amstrad Action  Sept 877
10 MODE 1:FOR p=&BE00 TO &BE11
20 READ p$:POKE p,VAL("&"+p$)
30 NEXT:INPUT"Endless lives ";i$
40 IF UPPER$(i$)="Y" THEN POKE
   &BE01,0
50 INPUT"Remove droids ";i$
60 IF UPPER$(i$)="Y" THEN POKE
   &BE06,&C9
70 INPUT"Enter number of
   platforms per planet
   (normally 18) ";s
80 IF s<1 OR s>18 THEN 70
90 POKE &BE00,(19-s)
1
```


Using Method 2 (just skip past the block called "KT") and **Paul Robson**'s poke you can help Magic Knight: infinite energy, magic, fuel, "strength and objects held" display are all up for grabs.

```
1 ' Knight Tyme
2 ' by Paul Robson
3 ' Amstrad Action  Sept 87
10 MODE 1:GOSUB 100
20 MEMORY 4999
30 LOAD"!":CALL 5000
40 INK 1,26:INK 2,11:INK 3,18
50 LOAD"!":GOSUB 100
60 FOR f=1 TO 6:READ a$
70 POKE VAL("&"+a$),0:NEXT
80 POKE &1925,&E0
90 LOAD"!",&C000:CALL 5000
100 FOR f=0 TO 3:INK f,0:NEXT
110 BORDER 0:RETURN
120 DATA 18c6,18c7,1923
130 DATA 29b2,33dc,3427
```

Match Point

R Pratt of Ramsgate has some tips that will slow down the devastating speed of the Psion game. Hold down the keys ZXC and and as soon as the ball is served the match will take place in slow motion. This makes it possible to beat the computer. Also if you wave the racquet around while your opponent is trying to serve it may put him off.

Cobra

Tips for the Ocean film-bore come from **Jamie Mascall** of Bar Hill.

There are men with bazookas, knives and guns. Duck under bazooka shots and jump over knives and guns, then kill the gangsters. Don't kill women standing still or the man under a lamppost – you'll lose points. Gangsters will pop out of dustbins, duck their shot and kill them. If ducks come down and you're on the ground you must duck them. If you're on a platform you should jump at the duck to kill it.

Ingrid will be somewhere on level five or six and will follow you around, impervious to bullets.

Scooby Doo

Invincibility for this cartoon-like game is provided by **Jan-Mirko Maczewski** of West Germany. Disk only.

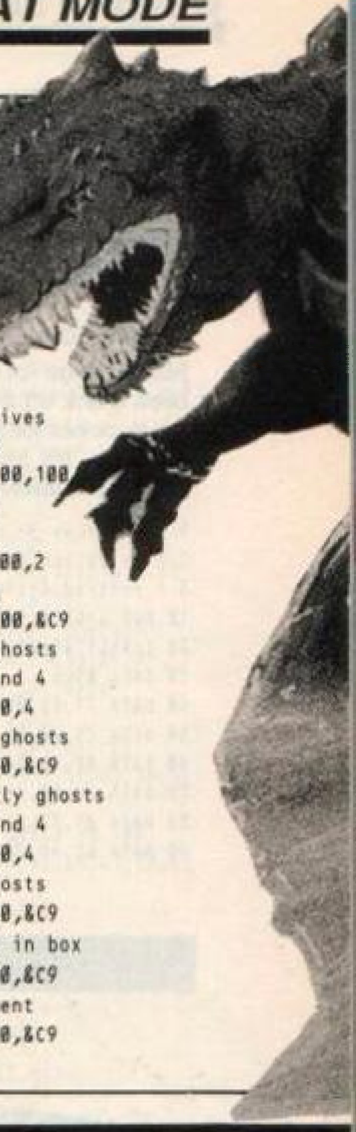
```
1 ' Scooby Doo -- disk
2 ' by Jan-Mirko Maczewski
3 ' Amstrad Action  Sept 87
10 OPENOUT"x": MEMORY &5DB
20 LOAD"scooby.bin": POKE &657,&C3
30 POKE &658,0: POKE &659,5
40 FOR i=&500 TO &50C: READ w$
50 POKE i,VAL("&"+w$): NEXT
60 CALL &5DC
70 DATA AF,32,A1,79,32,A2,79
80 DATA 32,A3,79,C3,E8,66
```

Jailbreak

Infinite lives have been provided by **Declan Kennedy** of Armagh for Konami's cops'n'robbers game. Enter the poke using Method 1 and watch those bad guys drop.

```
1 ' Jailbreak
2 ' by Declan Kennedy
3 ' Amstrad Action  Sept 87
10 MEMORY &A0FF:MODE 1
20 LOAD"!",&A100
30 FOR x=1 TO 6:READ a:
   POKE a,&A1:NEXT
40 READ a:POKE a,&BF
50 FOR x=&BF00 TO &BF06:READ a$
60 POKE x,VAL("&"+a$):NEXT
70 CALL &A100
80 DATA 41218,41221,41246,
   41249,41263,41285,41274
90 DATA af,32,7b,cd,c3,00,f0
```

CLASSIC MUNCHER



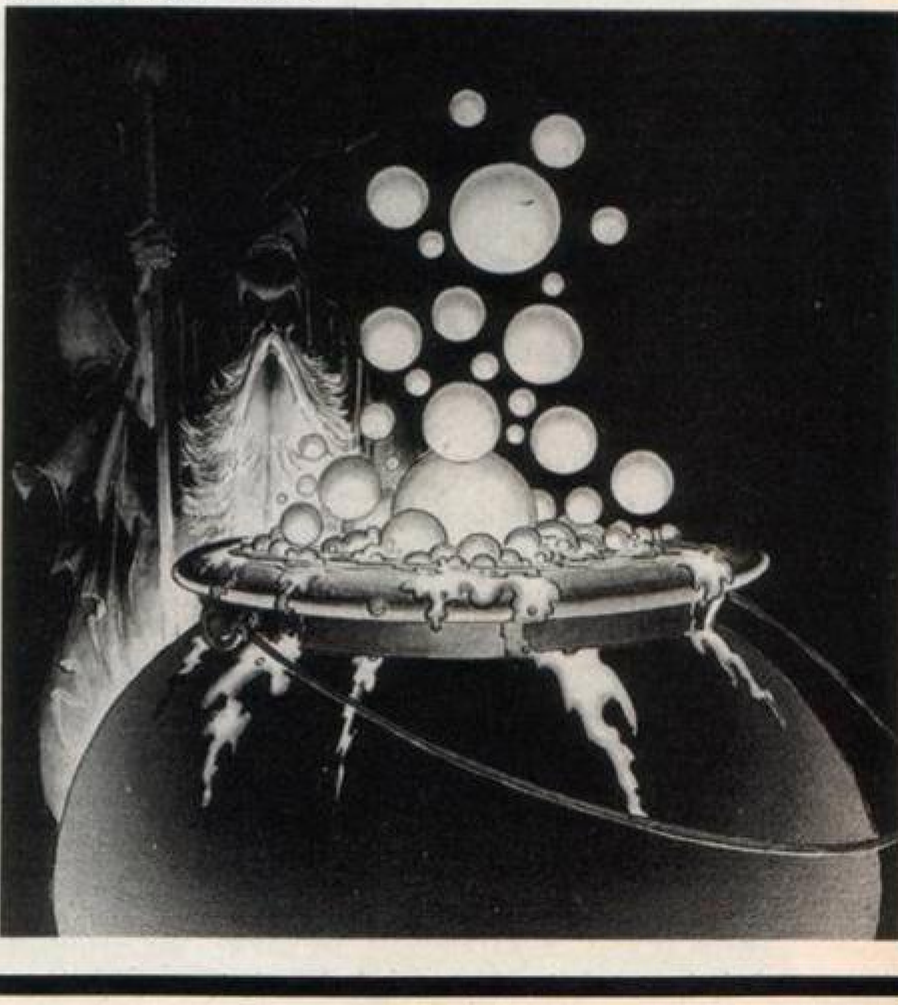
RpM has been busy attacking the Bubble Bus cheapo. The poke is entered using Method 1. Before each poke there's a REM (remember that ' on the Amstrad does the same as REM with instructions on what the poke does. This allows you to leave in the pokes that you require and omit those you don't. Certain pokes allow you to enter different values: the poke in line 140 (for infinite lives) has a value 100 after it – alter this to the number of lives you want.

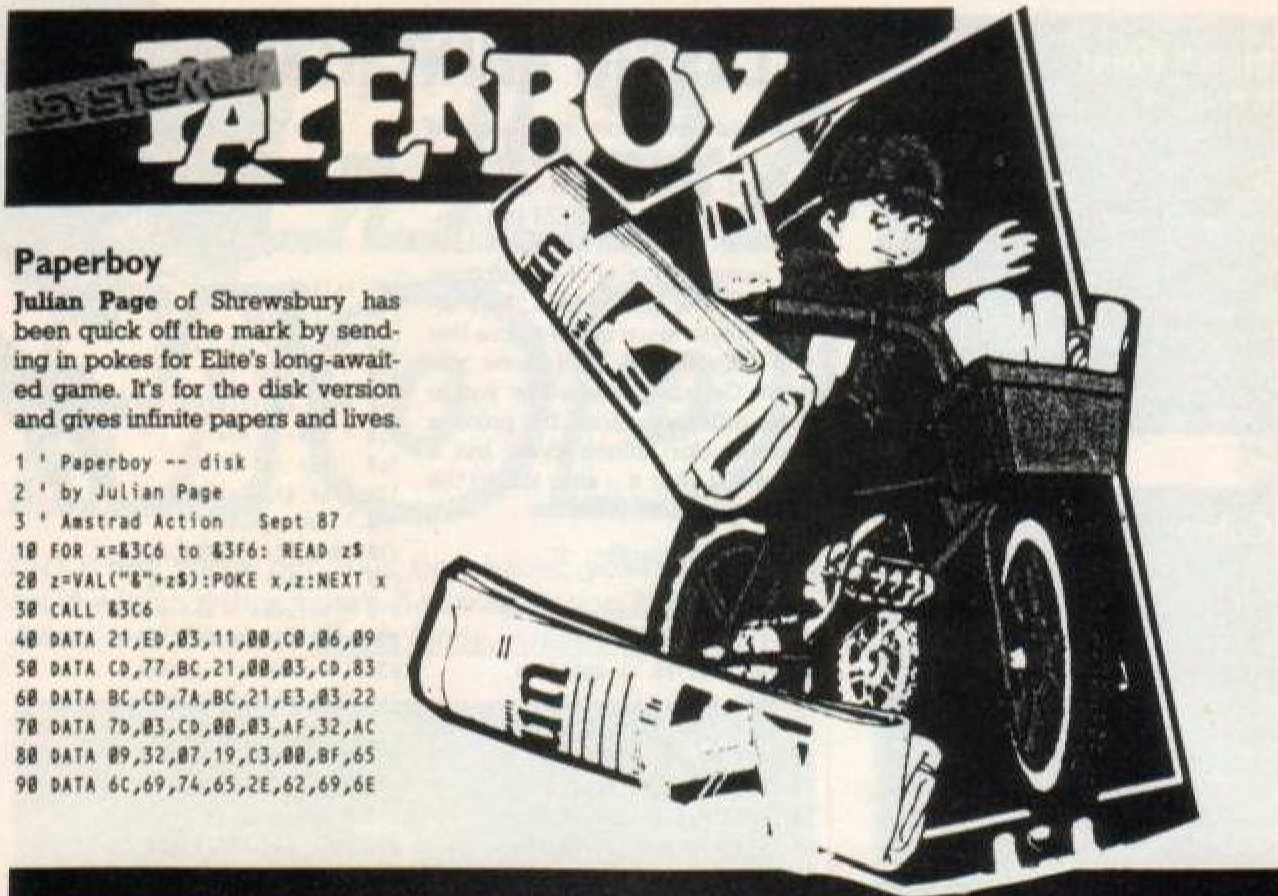
```
1 ' Classic Muncher
2 ' by RpM
3 ' Amstrad Action  Sept 87
10 RESTORE 40
20 FOR t=&BF00 TO &BF28+14
30 READ a$
35 POKE t,VAL("&"+a$):NEXT
40 DATA 06,07,11,00,C0,21
45 DATA 22,BF,CD,77,BC,28
50 DATA 10,21,FF,0F,77,23
60 DATA CD,80,BC,38,F9,28
65 DATA 04,FE,0F,20,F3,CD
70 DATA 7A,BC,37,C9,6D,75
80 DATA 6E,63,68,65,72,21
85 DATA 00,10,11,00,01,01
90 DATA 00,94,ED,80,C3,03
100 DATA 01
110 CALL &BF00
120 ' Number of lives
130 ' set for 100
140 POKE &13F3+&F00,100
150 ' Start level
160 ' set for 3
170 POKE &13E4+&F00,2
180 ' Fast ghosts
190 POKE &1F2D+&F00,&C9
200 ' Number of ghosts
210 ' between 1 and 4
220 POKE &5CD+&F00,4
230 ' Remove all ghosts
240 POKE &5C8+&F00,&C9
250 ' No. of deadly ghosts
260 ' between 1 and 4
270 POKE &47B+&F00,4
280 ' Harmless ghosts
290 POKE &471+&F00,&C9
300 ' Trap ghosts in box
310 POKE &459+&F00,&C9
320 ' Add excitement
330 POKE &D98+&F00,&C9
340 CALL &BF29
```

Camelot Warriors

Paul Wilton of Mold, has sent in pokes for Ariolasoft's game. Skip past the block called "CAMELOT" (this is a Method 2 poke) and run the poke to attain invincibility.

```
1 ' Camelot Warriors
2 ' by Paul Wilton
3 ' Amstrad Action  Sept 87
10 MODE 0:MEMORY 34999
20 LOAD"!C",36000
30 POKE &8D01,&C3:POKE &8D02,0
40 POKE &8D03,&BF:POKE &BF00,&21
50 POKE &BF01,&8F:POKE &BF02,8
60 POKE &BF03,&36:POKE &BF04,&C9
70 POKE &BF05,&CD:POKE &BF06,&4A
80 POKE &BF07,&1:CALL 36000
```





Paperboy

Julian Page of Shrewsbury has been quick off the mark by sending in pokes for Elite's long-awaited game. It's for the disk version and gives infinite papers and lives.

```
1 ' Paperboy -- disk
2 ' by Julian Page
3 ' Amstrad Action   Sept 87
10 FOR x=&3C6 to &3F6: READ z$
20 z=VAL("&"+z$):POKE x,z:NEXT x
30 CALL &3C6
40 DATA 21,ED,03,11,00,C0,06,09
50 DATA CD,77,BC,21,00,03,CD,83
60 DATA BC,CD,7A,BC,21,E3,03,22
70 DATA 7D,03,CD,00,03,AF,32,AC
80 DATA 09,32,07,19,C3,00,BF,65
90 DATA 6C,69,74,65,2E,62,69,6E
```

And here's a poke for the same game on tape. Enter it using Method 1 for infinite lives. The man to thank is **Martin Pleasance** of Brampton in Barnsley.

```
1 ' Paperboy -- tape
2 ' by Martin Pleasance
3 ' Amstrad Action   Sept 87
10 FOR n=0 TO 15: READ h: INK n,h
20 NEXT n
30 DATA 0,26,24,15,6,3,1,2,20,22
40 DATA 18,9,12,10,13,16
50 FOR n=0 TO 18: READ a$
60 a=VAL("&"+a$): POKE n+&8000,a
70 NEXT n: CALL &8000
80 DATA 3e,01,cd,6b,bc,af,cd,0e
90 DATA bc,01,00,00,cd,38,bc,cd
100 DATA 19,bd,c9
110 OPENOUT"dummy": MEMORY &3FF
120 LOAD"!SCREEN",&C000
130 LOAD"!PRELOC",&BF00
140 LOAD"!PCODE",&400
150 LOAD"!SCR",&C000
160 POKE &9A9,&3E: POKE &9AA,5
170 POKE &9AB,0: CALL &BF00
```



Mag Max

The Master Blaster of shoot-em-ups has beem given a good poking by **Tony Hoyle** of St Annes, Lancs. You are provided with invulnerability. Enter using Method 1.

```
1 ' Mag Max -- tape
2 ' by Tony Hoyle
3 ' Amstrad Action   Sept 87
10 MEMORY &37BA: LOAD"",&37C1
20 x=&37BB: GOSUB 60
30 x=&37EA: GOSUB 60
40 x=&A000: GOSUB 60
50 CALL &37BB
60 READ a$
70 IF a$="xx" THEN RETURN
80 POKE x,VAL("&"+a$): x=x+1
90 GOTO 60
100 DATA 11,40,00,21,ff,ab,xx
110 '
120 DATA 3e,5b,32,4b,00,3e,99
130 DATA 32,4e,00,xx
140 '
150 DATA 3e,b9,32,0b,b9,54,4d
160 DATA 48,3e,2e,32,0e,b9,ed
170 DATA 4b,02,bc,06,8a,11,00
180 DATA b9,c5,1a,d5,11,79,03
190 DATA 91,21,8a,b9,ae,77,23
200 DATA 1d,20,fa,15,20,f7,d1
210 DATA 13,c1,41,05,20,e6,dd
220 DATA 21,d9,bb,11,83,00,cd
230 DATA 67,bb,21,43,a0,22,5a
240 DATA bc,c3,03,bc,3e,c9,32
250 DATA c1,1a,c3,00,02,xx
```

Dun Darach

Another poke by **Peter Featherstone** of Leeds. This one is for Gargoyle's animated arcade adventure. Enter it using Method 1 to unlock most doors including Ladyos.

```
1 ' Dun Darach -- tape
2 ' by Peter Featherstone
3 ' Amstrad Action   Sept 87
10 MODE 1: MEMORY 4999: LOAD""
20 POKE &14A5,0: POKE &14A6,&BE
30 FOR f=&BE00 TO &BE07: READ a$
40 POKE f,VAL("&"+a$): NEXT
50 CALL &1450
60 DATA 3e,18,32,2a,79,c3,0a,5a
```

Saboteur II

Here is a poke for Durell's kick-and-punch game. Sent in by **Peter** "I have been wasting valuable revision time hacking" **Featherstone** of Leeds. Method 1.

```
1 ' Saboteur II -- tape
2 ' by Peter Featherstone
3 ' Amstrad Action   Sept 87
10 MODE 1:OPENOUT"d":MEMORY &2FF
20 LOAD"": POKE &37E,&80
30 POKE &37F,&BE
40 FOR f=&BE80 TO &BE87: READ a$
50 POKE f,VAL("&"+a$): NEXT
60 CALL &300
70 DATA af,32,0e,96,c3,00,04,00
```

Toot's Corner

Fly Spy

If you had trouble with the *Fly Spy* tip last month it's because we missed something out. Pause the game, type THIS IS TOO HARD and finally press a key between 1 and 7 to get at the cheats.

Speed King

Remember way back we credited **David German** for a *Speed King* poke? It never did appear. Well, just the other day the art team presented us with David's poke. It got misplaced under a mound of their scribblings.

Here it is. Enter it using Method 1 and answer yes or no to the multitude of questions.

```
1 ' Speed King -- tape
2 ' by David German
3 ' Amstrad Action   Sept 87
10 MODE 1:PRINT"Stop the clock";:
   GOSUB 90: a1$=a$: PRINT"Stop
   collision detection with
   bikes";:GOSUB 90:a2$=a$:PRINT
   "Stop collision with grass";:
   GOSUB 90: a3$=a$: PRINT"Turn
   off tune";: GOSUB 90: a4$=a$
20 MODE 1: SYMBOL AFTER 256:
   OPENOUT"D": MEMORY HIMEM-1:
   CLOSEOUT: MEMORY 2047: PRINT"
   Loading Speed King": LOAD
   "!SKING",2048
30 IF a1$="y" THEN POKE &152A,201
40 IF a2$="y" THEN POKE &1D90,201
50 IF a3$="y" THEN POKE &1D8C,201
60 IF a4$="y" THEN POKE &22DA,201
70 POKE &C4D,0: POKE &C51,9
80 CALL 2048
90 PRINT"(Y/N) ?";: a$="" WHILE
   a$<>"y" AND a$<>"n": a$=LOWER$
   (INKEY$): WEND:PRINT a$:RETURN
```



Stephen "there is only one this time" **Basford** of Crewe, Cheshire, is responsible for giving Ariolasoft's game a hard time. You have a choice of infinite lives, rocks and scooter Gobots with this Method 1 poke. Gobots go botty yeaahh.

```
1 ' Challenge of Gobots -- tape
2 ' by Stephen Basford
3 ' Amstrad Action   Sept 87
10 MODE 1: BORDER 0
20 INPUT "Inf lives (Y/N): ",a$
30 INPUT "Inf rockS (Y/N): ",b$
40 INPUT "Inf scooters (Y/N):",c$
50 MODE 0: FOR c=0 TO 15: READ d
60 IND c,d: NEXT c
70 LOAD"!gobots.scn",&C000
80 DATA 0,13,26,23,2,2,4,26
90 DATA 24,15,6,8,9,11,13,17
100 tot=0: RESTORE 200
110 FOR c=&BE80 to &BEB1
120 READ h$: v=VAL("&"+h$)
130 POKE c,v: tot=tot+v: NEXT c
140 IF tot<>4025 THEN STOP
150 IF a$="n" THEN POKE &BEA1,61
160 IF b$="n" THEN POKE &BEA6,61
170 IF c$="n" THEN POKE &BEAB,61
180 POKE &BB5A,201: CALL &BE80
190 DATA 06,0A,21,96,BE,11
200 DATA 90,00,CD,77,BC,21
210 DATA 40,00,CD,83,BC,CD
220 DATA 7A,BC,18,0A,47,4F
230 DATA 42,4F,54,53,2E,42
240 DATA 49,4E,3E,00,32,50
250 DATÀ 08,3E,00,32,EC,0E
260 DATA 3E,00,32,79,0E,C3
270 DATA 40,00
```



Infinite Stamina for Mastertronic's MAD game has been provided by **Julian Page** of Shrewsbury. Enter it using Method 1.

```
1 ' Stormbringer -- tape
2 ' by Julian Page
3 ' Amstrad Action   Sept 87
10 MODE 1: FOR x=&BE00 to &BE3B
20 READ z$:z=VAL("&"+z$):POKE x,z
30 NEXT x: CALL &BE00
40 DATA 06,00,21,00,A0,11,00,A0
50 DATA CD,77,BC,21,00,A0,CD,83
60 DATA BC,CD,7A,BC,21,1D,BE,22
70 DATA 4D,A0,CD,00,A0,AF,32,51
80 DATA 19,32,31,1E,32,6C,1E,32
90 DATA 86,37,32,3F,19,21,00,00
100 DATA 22,49,19,22,4B,19,22,4D
110 DATA 19,C3,88,13
```

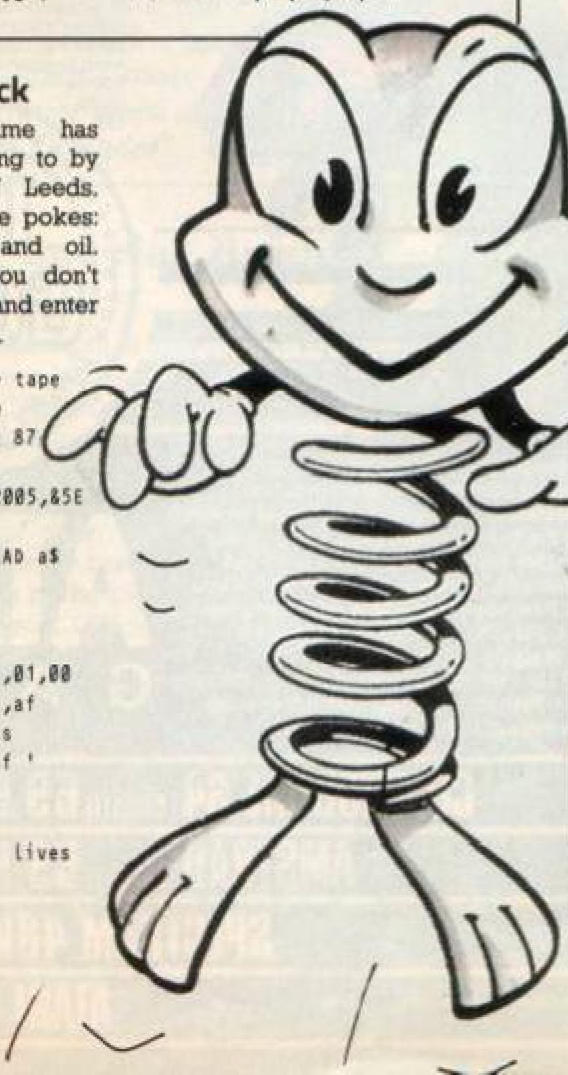
Peter Featherstone of Leeds has also had a go at Mastertronic's third Magic Knight game. His Method 1 poke gives infinite spells and energy. There is no need to collect the mirror or wand. And you can also start on any screen.

```
1 ' Stormbringer -- tape
2 ' by Peter Featherstone
3 ' Amstrad Action   Sept 87
10 MODE 1: MEMORY &9FFF: LOAD""
20 POKE &A04D,&80:POKE &A04E,&BE
30 FOR f=&BE80 TO &BFFF
40 READ a$: IF a$="MAD" THEN 60
50 POKE f,VAL("&"+a$): NEXT
60 CALL &A000
70 ' infinite energy
80 DATA AF,32,51,19,32,31,1E,32
90 DATA 6C,1E,32,86,37
100 ' infinite spell energy
110 DATA AF,32,FD,2D,32,0E,2F
120 ' no need to get wand
130 DATA AF,32,95,35
140 ' no need to get mirror
150 DATA AF,32,10,19,32,A5,36,32
160 DATA C9,36
170 ' sets MK's stats to 100
180 DATA 21,64,64,22,E3,41,22,E5
190 DATA 41
200 ' start room
210 ' change 07 in line 230 to
220 ' a number between 00 and 34
230 DATA 3E,07,32,C7,16
240 ' don't remove
250 DATA C3,88,13,MAD
```

Krakout

A Method 1 poke that gives infinite lives on Gremlin's brick'n'bat game. **Stephen Basford** of Crewe is the man to thank.

```
1 ' Krakout -- tape
2 ' by Stephen Basford
3 ' Amstrad Action   Sept 87
10 BORDER 0: INK 0,0: MODE 1
20 tot=0: FOR c=&40 TO &64
30 READ d$:v=VAL("&"+d$):POKE c,v
40 tot=tot+v: NEXT c
50 IF tot=2972 THEN CALL &40
60 PRINT "Error in DATA!": END
70 DATA 06,01,21,5D,00,11,00,01
80 DATA CD,77,BC,21,00,01,CD,83
90 DATA BC,CD,7A,BC,21,5E,00,22
100 DATA 05,01,C3,00,01,2E,AF,32
110 DATA 3A,7B,C3,94,4E
```



Thing Bounces Back

Gremlin's bouncing game has been given a good seeing to by **Peter Featherstone** of Leeds. There are various infinite pokes: lives, slinkies, panics and oil. Leave out the pokes you don't want (they are all REMed) and enter the poke using Method 1.

```
1 ' Thing Bounces Back -- tape
2 ' by Peter Featherstone
3 ' Amstrad Action   Sept 87
10 MODE 1: MEMORY &1FFF
20 LOAD"!",&2000: POKE &2005,&5E
30 POKE &2006,&03
40 FOR f=&350 TO &400: READ a$
50 IF a$="BOING" THEN 70
60 NEXT f
70 CALL &350
80 DATA 21,00,20,11,00,01,01,00
90 DATA 02,ed,b0,c3,00,01,af
100 DATA 32,f4,a3 ' panics
110 DATA 32,08,b0,32,ff,af '
    slinkies
120 DATA 32,19,92 ' oil
130 DATA 3e,c9,32,35,93 ' lives
140 'leave following line
150 DATA c3,00,88,BOING
```



This month's winners

No, you can't have the top prize two months in a row, **Peter Featherstone**. Still, you're runner-up along with **Julian Page** and **Tony Hoyle**. But the winner this month is **Stephen Basford** for *Krakout* and *Challenge of the Gobots*. Congratulations to the winners and keep sending in your maps, tips and pokes.

Don't worry if you haven't seen any of your masterpieces in print. We shall get to them eventually. It's just that the *AA* offices are spilling over with Cheat Mode mail. We're slowly clearing the backlog.

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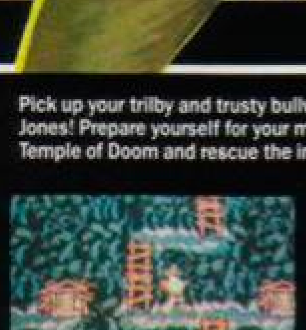
Yes! To commemorate the sale of U.S. Gold's 5 millionth game in April this year, we are including a fantastic opportunity to win a game of your choice with every copy of Indiana Jones and the Temple of Doom*™ which itself is set to become a software milestone.

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†The draw will take place on November 30th. All vouchers to be included in the draw should be returned by October 30th.

Pick up your trilby and trusty bullwhip and don the mantle of the legendary Indiana Jones! Prepare yourself for your most dangerous adventure yet–to storm the evil Temple of Doom and rescue the imprisoned children and the magical stones of Sankara!





Screens from Arcade Version

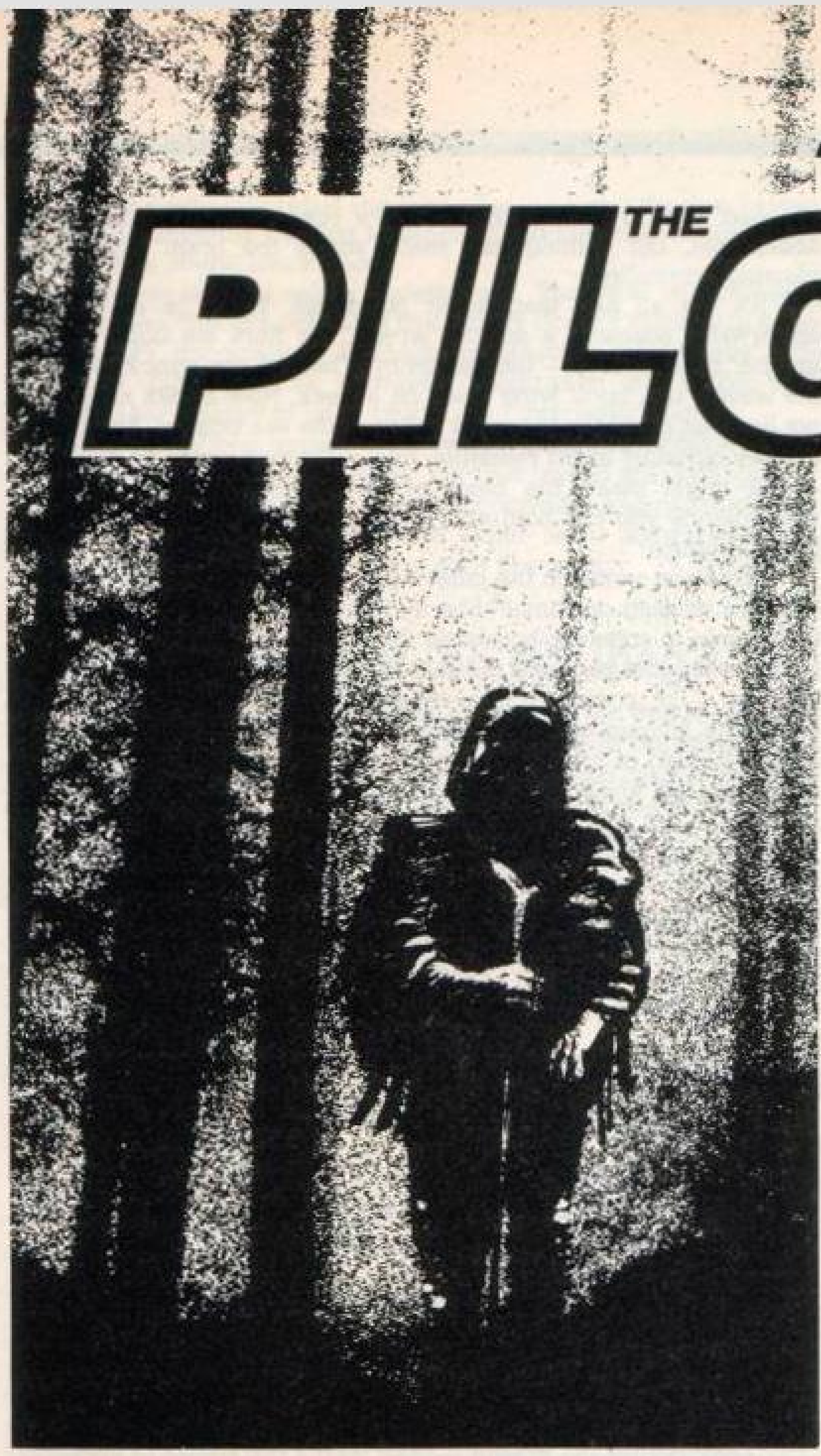
Beware the foes and hazards that block your way. The Thuggee guards will fight to the finish and poisonous cobra snakes will rise up in front of you. You will traverse perilous ledges, ride under-ground railways, and cross the bottomless fiery pit in pursuit of your quest!

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THE PILGRIM



Ahhh... the summer holidays... the sweltering heat... the waves gently breaking on the sun-baked sands... the distant chimes of the icecream van... the usual dire shortage of good software... and the Pilg creeps into the AA offices with news of **Rick Hanson, Special Agent,** *readers' games, and – gasp – more Pilg Programming! If only every English summer were as hot as the copy from the pen of the Cowled Crusader!*

Rick Hanson, Special Agent

Robico, £9.95 cass

Robico isn't exactly at the forefront of the Amstrad adventure market – in fact the Pilg can't remember seeing anything for the CPC from this Welsh outfit until now. *Rick Hanson* is the first part of a text-only trilogy which a year or so ago (according to Robico) wowed BBC owners across the nation. Will it give us Arnold owners similar treatment?

To start with, it's not often that you see a text-only game nowadays. The Pilg was never really much of a one for graphics, but in recent months some of the pics accompanying, for example, *The Pawn* – or *Dracula* from CRL – have been so good that the Cowled Crusader has relented somewhat. Yup, there's no doubt about it, graphics *can* add something to the enjoyment of a game if they're good enough. However, most of the time they're not good enough, and some of the time – as here – they're absent altogether. If you've grown used to piccies with your prose, are you going to miss them in *Rick Hanson*?

The game gives a good impression before it's loaded by coming in a long black box, complete with a small Adventurer's Note Book (blank pages for scribbles bound in black card) and a leaflet with a comprehensive list of clues and instructions. The Pilg is all for clues in packages (as with the Magnetic Scrolls games). You don't have to read them if you don't want to – though in this case it's rather difficult to look up a solution without inadvertently seeing the answers to other problems. Robico suggests that you get a friend to look up the answer for you, but a little better design of the section would have made this unnecessary.

The game starts you off in a disused railway station from which you must escape, having first received some instructions from a tape-recorder that, judging by its performance, must have been designed by Mr Bang before he teamed up with Mr Olufsen.

There are some good features to the program, including ram-load and -save, back-one-move, and the ability to use IT, string together commands, and even enter interrogatives like WHERE and WHO. The parser does not, however, prove very helpful if it's having difficulty with your entries – simply replying "That only flummoxed me" or "Strange" or... well, you get the picture. Fellow pilgs well know that I like to be told why my inputs aren't being acted on so that I can ascertain whether I'm faced with a vocabulary or a logic problem.

Once you get into the game there are a number of puzzles to be solved before you can achieve your objective – to destroy General Garantz before he nukes the world. Those of us used to *Quill*-based text games will be impressed by the large number of locations in the game and the lengthy text-descriptions. However, after a while you can't help feeling that the programmer saved more space by simply repeating phrases in various groups of locations than by compressing data.

Despite the few nice touches in the programming and one or two nifty code-cracking puzzles, *Rick Hanson* doesn't ring any bells for originality and the Pilg finally abandoned the keyboard without suffering intense withdrawal symptoms. Robico is obviously used to receiving plaudits from BBC owners. However, it *is* 1987, chaps, and this style of game, despite the effort that must have gone into both the packaging and the program itself, just won't wash nowadays at full price in the Amstrad market. Save your pennies, pilgs, for something better.

Atmosphere 48% Interaction 62% Challenge 60%
***AA* rating 52%**

Two from the shelf...

The Cowled Crusader is always keen to receive copies of games written by readers. *GAC* and *The Quill* have introduced many to the gentle art of adventure-writing, and with the promise of *PAW* (*Professional Adventure Writer* from Gilsoft) on the horizon the trend is bound to continue. This month Pilgy pulls a couple of recent submissions out of the bag and meditates upon the art of home brewing.

Malevolence

***Quill*ed by the Page family, London SE17.**

Malevolence is a *Quill*ed game in which the death of your uncle prompts you to set out to restore the family fortune. A lette· from your departed relative indicates that this may be done only by killing one of your uncle's old acquaintances.

Just in case you think that knocking off the old man's pal is a touch antisocial, I should add that the aforesaid acquaintance has fallen on hard times and is now a bit long in the tooth... and he will happily demonstrate the length of his dentures by sinking them into your neck. To wit, the old codger has turned vampish.

Malevolence has a great loading screen but is otherwise text-only. That in itself is no bad thing, but where *Malevolence* falls down – as do so many homebrew games – is in the quality of its



puzzles and the style of the text. But let's not be too rude about it. Looking carefully at a game like this can teach us all a lesson.

The fact is that designing puzzles for adventure games is extremely difficult. Many adventure designers tend to construct puzzles on the basis of finding objects. For example, in this game there is a large spider which you can pass only by burning its web – hence you need to find some matches.

There are many variations on this "find object, solve puzzle" theme. Sometimes you'll have to find several objects and combine them to make another – there's an example of this too in *Malevolence*, where you combine different objects to make a fishing-rod, catch a fish, and use it to pass a hungry wildcat. Puzzles of that particular sort are quite common (making a blowpipe in *Morden's Quest* to kill the pygmy, for example) and can sometimes be extremely difficult – as anyone who will remember making the sonic screwdriver in *Ship of Doom* will recall.



A few "object puzzles" in a game is no bad thing, but in many homebrew games (and sadly in some commercial releases) that's all you get. What's more, they tend to rely for their difficulty on their obscurity – the only reason the sonic screwdriver baffled people was that no one in right mind would ever think of making one. However good they are, though, if object puzzles are all you get then the whole feel of the game suffers. *Malevolence* relies almost exclusively on object puzzles, and the effect is, in the end, to rob the game of any real excitement.

So what's a good puzzle? Well, to a large extent this is a matter of personal preference, but generally speaking a good puzzle will involve interaction with objects and characters in a way that reflects some of the frustrations we experience in everyday life – or, even better, invents new ones. For example, you can't lift a floorboard because you've forgotten to close the door, which has swung out across the board and is preventing you from raising it (see *The Pawn*). Or in Infocom's *Ballyhoo*, you can pass a guard only by imitating someone else's voice: the trick is to inhale gas and alter its tone.

That's not to say that object puzzles can't be great fun – the best example must be the Babel Fish in *Hitchhiker's Guide to the Galaxy*. Those of you not familiar with this puzzle should know that the fish pops out of a dispenser and down a drain. If you block the drain, it gets whisked away by a floor-cleaning robot, and so on. To get the fish you have to employ several objects at once. It's worth pointing out, however, that even this puzzle succeeds largely because of the humour of the text rather than the logic of the situation.

Malevolence has quite a few locations but here we come up against problemette number two – style and originality.

There are a couple of spelling mistakes in *Malevolence*, but these are really not a problem. What is a problem is that none of the locations shows a real sense of invention. There's a place with a big nasty spider – well, I'm sure we can all think of at least one famous adventure with nasty spiders in it. There's a grassy hill, a cobbled path, a little harbour with a rowing boat, a maze... All acceptable, but nothing that really zonks the brain with mind-blowing originality.

It's not *all* like that, thank goodness. There is an unusual underwater scene in a sunken wreck, but here we come across another stylistic error – inconsistency. There in the wreck, beneath the waves, is a book lying open on a desk. Now books simply do not lie open on desks in rusted hulks on the sea bottom. And if they do they certainly aren't readable. Of course they *could* be readable – that might make the basis of an excellent puzzle – but in *Malevolence* you just hold your breath, duck under, and read the book. Hmmm!

Mrs Page writes in the letter accompanying her family's game: "Are we wasting our time?" She and her family have been sending their game to software houses in the hope of getting it released. It hasn't been, and honestly the Pilg is not surprised. But that's not a problem – of course you're not wasting your time! There's an enormous amount of satisfaction to be had out of devising these games instead of just being a consumer of purchased packages – and there will always be a friend or relative who will get a lot of pleasure out of solving them.

However, if you rely for your satisfaction on the wider public exposure that comes with commercial release then you must improve the way you think about puzzles, and develop more ideas like your underwater scene. You can get a lot of help in this from other adventurers – try joining a club like Pat Winstanley's Adventure Probe, dedicated to helping people write better games.

Brainless

***GAC*ed by Paul Thomas, Hucknall, Notts**

This is really a bit of a joke, this one. However, the Pilg thought he'd mention it because it's the perfect example of a game with some great ideas that needs the support of other adventure programmers to improve it.

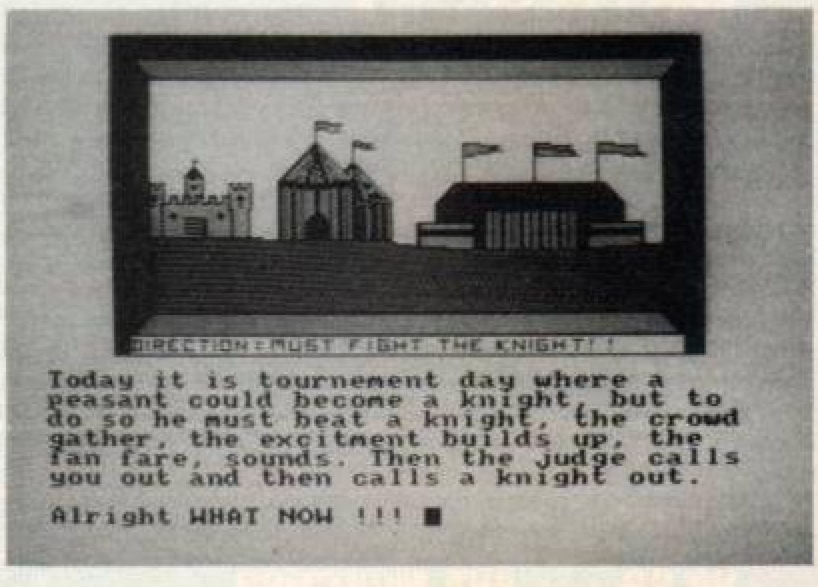
The game is so full of bugs that I couldn't make much progress, but the basic idea is that as a newly-elected champion you must rid the land of the Black Knight. On the way you encounter such characters as Deaf, Flesh, and Pain – as well as Sunflower, Cinemen, and Gorm.

"Look out for the biased judge," warns the author in his letter, "and the pouting wood-nymphos."

The combination of characters with names like Deaf, Flesh, and Pain and "pouting wood-nymphos" was ample encouragement to the Pilg to load up this game. There are some nice original touches, including a joust where you must select different weapons in order to win, and a bottle of grog that induces romps in stables. However the program itself is a major disaster area.

The spelling is so bad as to be occasionally misleading. I'm not sure if Deaf is really Deaf, for example – I have a sneaking suspicion he should be Death. And although I love the idea of celluloid characters, I suspect that Cinemen are not little people from the movies but actually a single person called Cinnamon. Ah well...

The bugs, however, are unmistakable and quite inventive. First they corrupt the text, substituting graphics characters for words,



and then the graphics rebel and take over the entire display, having magically converted the text to Mode 0 and reduced the graphics window to a single black spot.

Brainless is quite unlike *Malevolence*. The latter is a carefully programmed, thought-out game that simply doesn't manage to seize the player's imagination. *Brainless* is anarchic, chronically programmed, but shows an energetic imagination that could, with considerable dollops of help, produce an interesting game.

Most homebrew games fall between these two stools – and in all cases the message is the same: the best games are collaborative efforts. Many players will play-test your software and assist in other ways without charge. So let's see some more software, homebrewers, and where there's space we'll fit you in.

Wot, no tips? Wot, no mailbag?

Unfortunately we are still very short of space in the Pilg section. I'm very touched by those of you who have written in demanding that we should have more room, but at this time of year magazines grow somewhat lean and we all have to restrain our pen-pushing. Next month the Cowled Crusader will make it all up to you with a bumper mail section, and the largest Tips column that we've had for a long time. See you then... .

Knight Orc

Level 9/Rainbird, £14.95 cass, £19.95 disk

Magnetic Scrolls with *Guild of Thieves*, Infocom with *Bureaucracy* – there's no doubt that the boys and girls at the top of the class have been wheeling out the big guns recently. But what about our old friends Level 9? Apart from *Silicon Dreams* – a rehash of older games – they seem to have been keeping a somewhat low profile. And in today's competitive climate that just won't do. Level 9 has been in serious danger of becoming yesterday's software house – can they keep up?

First, they needed to do something about their awful graphics. Whatever your own feelings about the pictures in, say, *Silicon Dreams*, the Pilg thinks they're rubbishy. I don't really believe that the Level 9 people – in their heart of hearts – think much of them either. Certainly when you put the graphics alongside something like *The Pawn* they begin to look sick. In fact put them alongside any graphical adventure from CRL, Interceptor, Delta 4 or Melbourne House and they still look decidedly peaky.

Second, they needed to do something about the programming of their games. Other programmers are developing the art of interactive characters with each new release. Level 9 can't afford to lag behind in this race – anyone can introduce interactive characters in a game, but getting them right takes a bit of practice. The Level 9ers haven't even been going through the motions here.

The fact is, the adventure market is changing. More and more people are changing to disk-based machines, and that spells death for the old way of life when a game loaded from tape and had to be squeezed into memory all at once. Level 9 excelled at that sort of thing – its compression and parsers were second to none in the old days. They still are. But who needs them when you've got 128K and a disk-drive?

I know there are lots of pilgs out there without disk-drives. But do not despair – the prices are dropping rapidly. And if you're not interested, think what you're missing out on – no Infocom, no Magnetic Scrolls, no *Koronis Rift*, no *Tau Ceti Special Edition* ...

Meanwhile, however, Level 9 has come back with fists flying – and released *Knight Orc* through Rainbird, featuring – yes, you guessed – interactive characters, souped-up graphics, and an upgraded parser.

The game concerns an orc by the name of Grindleguts and comes on three cassettes or one disk. The Pilg has played the ST version and much enjoyed it, though I do have reservations. First, we're stuck with Middle Earth scenarios still, when other companies have struck out into other, newer game arenas. Second, the interactive characters are just a bit self-consciously programmed and their responses are sometimes incomprehensibly inappropriate.

However, you can now `FOLLOW` other characters, address them directly, give them one or several commands, and even `WAIT FOR` them to arrive. In addition, the game features `GO TO` and `RUN TO` commands which enable you to move directly to a named location, with location descriptions en route printed or not printed respectively. `FIND` does similar things with objects.

The game comes in the usual Rainbird sumptuous packaging complete with a poster and booklet containing a novella that sets the scene for the game. It also forms part of the anti-piracy system so you shouldn't throw it away unless you *really* know it by heart.

Stay tuned for the Pilg's definitive review of the genuine Arnold version – coming soon...

Lords & Ladies of Adventure

Here's this month's list of brave and virtuous souls who have taken it upon themselves to offer their services to other, less fortunate, adventurers. In doing so, they run the risk of making friends around the world, achieving immortality and making their friends green with envy. So if you've completed a game and are willing to help others, drop the Pilg a line.

Participation in this column is an honour but remember it also involves actually helping others – Lords and Ladies who do not do their job properly come in for some fierce criticism and will certainly be in for a pasting from the Pilg. Think twice before writing... but you will find that, if included, your life will be the richer for it.

Just one point here – some Lords and Ladies occasionally send in "updates" to their lists. Because of the way this system works, if you wish to make a re-entry in the column (which changes every month) you must submit a complete reapplication. Please remember this or risk disappointment.

Hitchhiker, Spellbreaker
Charlie Cant, 95 Bouverie Road West, Folkestone, Kent, CT20 2LB
☎ **(0303) 53268** on a SUNDAY ONLY please.

Message from Andromeda, Forest at the World's End, Heroes of Karn, Jewels of Babylon
Derek Oliver, 11 King Edward Road, Ramsgate, Kent

Adventureland, Forest at the World's End, The Hobbit, Classic Adventure, Heroes of Karn, Jewels of Babylon, Message from Andromeda, Mordon's Quest, Red Moon, Sphynx, Warlord, Never-ending Story, Fantasia Diamond, Spellbound, Seabase Delta, Dun Daragh, Marsport, Sorcery, Devil's Crown, Worm in Paradise, Souls of Darkon, Emerald Isle, Return to Eden, Wild Bunch
Tim, Thanescroft Cottage, Lords Hill, Shamley Green, Guildford, Surrey, GU5 0TJ

Red Moon, Worm in Paradise, Price of Magic, Heroes of Karn, Forest at the World's End, Jewels of Babylon, Message from Andromeda, Subsunk, Seabase Delta, The Experience, Spytrek, Imagination, Collossal Adventure, Adventure Quest, Dungeon Adventure, Monsters of Murdac, Kentilla
Bob Weeks, 9A Lydney Close, Paulsgrove, Portsmouth, PO6 3QG

Snowball, Spellbound, Mission 1, Project Volcano, Heroes of Karn, Forest at World's End, Message from Andromeda, Knight Tyme, Jewels of Babylon, The Boggit, Bored of the Rings (thanks to Joan Pancott), The Hobbit, and Trapdoor
Iain Purdie, 9 Glassford Road, Strathaven, Lanarkshire, ML10 6LL ☎ **(0357) 22663**

Forest at the World's End, The Hobbit, The Lord of the Rings, Warlord, Seabase Delta
Martin Empson, 24 Robin Hood Lane, Hall Green, Birmingham, B28 0LN

Dracula, The Boggit, After Shock, Warlord, Heroes of Karn, Jewels of Babylon, The Hobbit, Forest at the World's End, Adventure Quest, Colossal Adventure
John Vincent, 62 Hillside, Stowmarket, Suffolk, IP14 2BA

Heavy on the Magick, Dun Darach, Tir-Na-Nog, Fairlight, Jewels of Darkness, Price of Magik, Red Moon
Irene Allen, 15 Seventh Avenue, Garston Park, Tilehurst, Reading, Berks

Emerald Isle, Return to Eden, Worm in Paradise, Price of Magik, Vera Cruz Affair, Questprobe III, Lord of the Rings, Hobbit, Boggit, Robin of Sherlock, Souls of Darkon, Aftershock, Warlord, Jewels of Babylon, Dracula, Terrormolinos, Mordon's Wuest, Classic Adventure, Mindshadow, Seabase Delta, Subsunk, Spy-Trek, Imagination, Necris Dome, Nythyhel, Theseus, Miami Vice, The Hermitage, Teacher Trouble, Knight Tyme, Spellbound, Kentilla, Swords and Sorcery, the Fourth Protocl, The Mural, Microman, Galaxias, Enchanter
Tyron Austin, 13 Warner Place, Llanelli, Dyfed, SA15 3NW

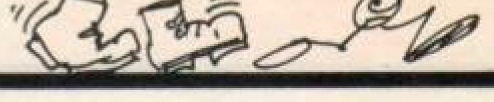
Enchanter, Mordon's Quest, Forest At World's End, Jewels of Babylon, Heroes of Karn, Message from Andromeda, Warlord, Worm in Paradise, Red Moon, Marsport, Dun Daragh, Adventureland, Classic Adventure, The Hobbit, Sphynx Adventure, Neverending Story, Souls of Darkon, Robin of Sherwood, Fantasia Diamond, Spellbound, Knight Tyme, Seabase Delta, Emerald Isle, Return to Eden, The Boggit, Bugsy, Wild Bunch
Tim Gurney, Thanescroft Cottage, Lords Hill Shamley Green, Guildford, Surrey, GU5 0TJ

Contacting the Pilg...

Write Pilg c/o ***Amstrad Action, 4 Queen Street, Bath, BA1 1EJ***. Or if you have a modem you can get through on Telecom Gold **83: JNL251**. The Pilg positively glories in correspondence, and those who get in touch stand an excellent chance of seeing their name (and even their deathless prose) on these pages.

Please remember, however, that the Pilg himself is *not* a helpline service. That's the job of the Lords and Ladies, and if you write to the Pilg I'm afraid you risk disappointment as well as wasting a stamp. Much as I would love to communicate with everyone on a personal basis, the volume of mail and the laws of time and space to which I am subject make this quite impossible!

Programming with the Pilg...



PART 6

After three months of a space-shortage curse, the Pilg programming course resumes its rightful place upon these hallowed pages. The listing you typed last time is made lucid.

Adventure programs, as we said earlier in the series, require one to make a lot of IF-THEN type decisions. This is easy in Basic, but it does take up rather a lot of space if you have endlessly to repeat IF statements in your program. In the previous two instalments we began to look at other ways of taking decisions – let's just back-step a little and examine the problem we set ourselves.

First, you were asked to type in the following listing and run it.

```
 1 ' Program for pilgrims to puzzle out
 2 ' Amstrad Action   May 1987
10 CLS: node=1
20 RESTORE: FOR n=1 TO node: READ a$: NEXT n
30 PRINT a$;" (Y/N) ": GOSUB 44
40 IF node<8 THEN 20 ELSE RESTORE 60: FOR n=8 TO node:
   READ m$: NEXT n: PRINT: PRINT m$: END
44 i$=INKEY$: IF i$="" THEN 44
45 IF (LOWER$(i$)<>"y") AND (LOWER$(i$)<>"n") THEN PRINT
   "Answer yes or no... ": GOTO 44
46 node=(node*2)+ABS(LOWER$(i$)="y"): RETURN
50 DATA "Are you happy?", "Oh dear. Do you get on well
   with your parents?", "Hmmm...VERY happy?", "Do you
   live at home?", "Have you got spots?", "So there's
   something wrong...?", "Been drinking?"
60 DATA "Go home and sort it out then!", "Leave home at
   once!", "Cheer up then - it can't be that bad!", "See
   a doctor!", "Ye gods! A NORMAL person!", "Boy! Are
   you mixed up!", "You must have religious tendencies.",
   "That explains everything..."
```

The program, when run, asks you a series of simple questions and, depending on your answers, prints an appropriate message. The logic of the questions and answers is shown in Figure 1. We call the type of structure shown in the diagram a "tree", for no better reason than that if you turn it upside down you can see that it looks a bit like one. There is a root box, or "node" at the bottom, and the tree then branches out to other nodes.

Do it in your head

Without running the program, you can now imitate the logical process it is carrying out by putting your finger on the node numbered 1 and asking yourself the question in the box. If your answer is yes, then you trace your path along the branch marked yes until you reach node 2. You then repeat the process, branching either left or right depending on your answer, until you reach one of the nodes on the bottom row. This node will contain the message that would have been printed out by the program had you responded in the same way to the questions when running it. Try typing it in and running it a few times to see it in action.

This particular tree is a very limited and rigidly structured one. You can see that each node has only two branches leading from it – or, in the bottom row, no branches at all. A node that has branches leading from it to other nodes is said to be a "parent", and the nodes it leads to are its "children". In this tree, all parents have two children. The nodes have also been numbered systematically, starting with 1 at the top and working down sequentially. In this case therefore there is also a strict numerical relationship between the different node numbers.

We can express this relationship by saying that for any parent node, the "yes" branch leading from it to one of its children will lead to a child whose node number is double the number of the parent node plus one. So if you put your finger on node seven and answer yes to the question "Been drinking?", you will end up at node 15, which is $2 \times 7 + 1$.

Now let's look again at the listing – which incidentally the Pilg forgot to renumber before printing and for which I apologise. Having odd line number sequences like 44, 45, 46, 50 is very bad practice and makes entering listings tiresome because you can't use the AUTO function. However, the listing was originally printed in this manner, and to avoid confusion I didn't want to change it.

Step by step the Pilg expounds

Back to the nitty-gritty – if you're an experienced Basic programmer you may want to skip this bit, but have patience because even a simple program like this can be incomprehensible to some readers. We'll explain it line by line. The program first, in line 10, clears the screen and sets the variable node to 1. So we're starting off at the top of the tree.

In line 20, the program sets the data pointer using RESTORE to the first data statement in line 50. If you look at the diagram, you'll see that this is the question for Node 1. The program then goes through a loop, reading data statements into the string variable a$. The number of times it does this is determined by the value of node. Since right now it's sêt to one, it does it once only, and we end up with "Are you happy?" held in a$.

Line 30 prints this question on the screen with a Y/N prompt to the reader to answer yes or no. It then jumps to a subroutine held in lines 44 to 46.

Line 44 checks for a key-press and recycles until it detects one.

Line 45 checks that the key pressed is either a Y or an N. If it isn't, it reminds the player to enter yes or no and jumps back to 44 to try again.

Now line 46. This line does all the work. By this stage, the player must have entered either a Y or an N. So the program knows that an answer has been given. You will remember that earlier we pointed out the relationship between the node numbers, so we know that if the answer was Y then the new node we want to jump to is the current node number times 2, plus 1. If the answer was N, then the new node number should be the current node number times 2.

The important function here is ABS(LOWER$(i$) = "y"). By referring to your Basic manual (if you're puzzled) you will see that this returns zero if i$ holds anything other than "y" (in other words, it will return zero if the answer was no) and one if the answer was "y".

Once it's processed this line, our program has calculated the new node number depending on the answer we typed in. It now jumps back to line 40.

Line 40 now checks to see where we are on the tree. Because of the rigid structure of our tree, we know that once we reach any node with a number greater than or equal to 8, then we've reached the bottom of the tree and wish only to print the relevant message and stop. So the program first checks to see if the value of node is less than 8. If it is, it cycles back to line 20, reads through the data list node number of times, thereby arriving at the correct question for the current node number and then carries on as before, printing the question and waiting for an answer, calculating the new node number... and so on.

If the node number is greater than 8, then it's a simple matter of setting the data pointer to line 60, where all the messages for nodes 8 to 15 are stored, reading the correct message into m$, and printing it on the screen. Voilà, hey presto, fiddle de dee – and go back over the above again if you can't work it out. It really is astonishingly simple, so don't be put off, no matter how poor a programmer you think you are.

A kernel of great power

However simple it may be, though, don't let the simplicity blind you to the fact that this small program has demonstrated a very useful function. We've avoided lots of IF statements – there may be three in the listing, but the point about this method is that there would still only be three if the tree had 10,000 nodes and 9,999 decisions to process. By looping through the same three IF statements we save programming space and keep our code more compact.

However, the real value of this technique is actually something quite different – and which we haven't mentioned until now. The great bonus is being able to use a method which allows you to sketch out the logic of your game in diagrammatic form, and then translate it directly into Basic. The decision structures in your game will be far easier to fix diagrammatically. And in the next instalment of Pilg Programming we'll explore the advantages of using this more visual means of designing a game's logic, as we continue with the programming of our mini-adventure.


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ACTION TEST

There's a slightly different look to the start of Action Test this month. We've dispensed with the full list of games, and from now on we'll indicate just the Raves and Mastergame on the Line-Up.

This month's Mastergame is *Exolon*, a really stunning game that will make your eyes pop out when you see its colourful graphics and wild explosions.

The Raves are packed with action of all sorts. *F15 Strike Eagle* is a very advanced combat simulator. *Zynaps* and *Starfox* take a more futuristic stance, whisking you off into space. *Starfox* in particular will amaze you with filled-in 3D graphics and lots of space zapping. There's also the new James Bond game, which didn't get a Rave but is bound to cause a lot of interest.

TRIO

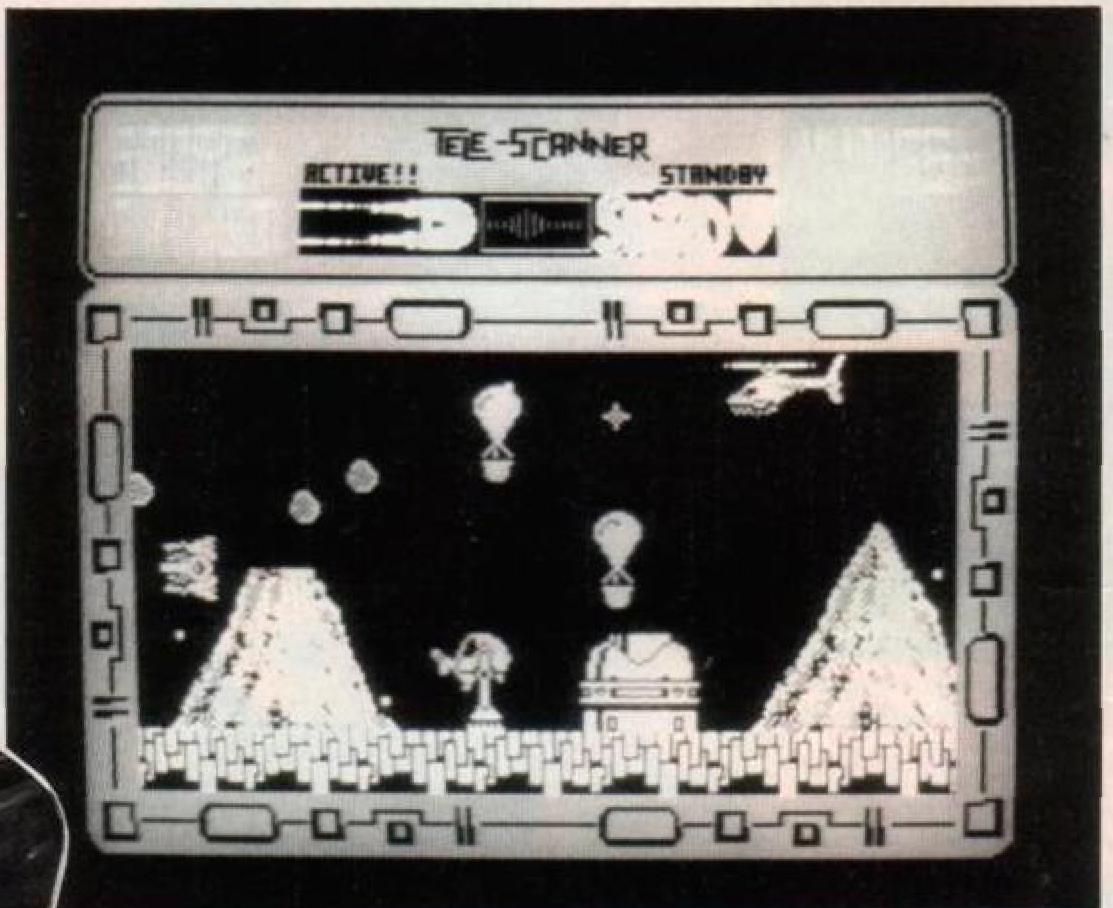
Hit Pak, £9.95 cass, £14.95 disk, joystick or keys

Another compilation where they use one good game to dump off a couple of slack games? Not quite, but close!

The first of the trio is *Airwolf II*. The game intro tries to make Stringfellow Hawke seem like an avenging angel. So, to decipher: You control his new helicopter. Shoot everything in sight. Along the way, you will find extra bits of weaponry to help you. A good game, with detailed but single-colour scenery. Movement is at a sensible speed. As with all three of these games, the music is catchy. This game, however, has more music than the others, and it's all great! Sound-effects are also enjoyable. By far the best of the three games.



3DC – a strange name for a strange game. You are a submariner who must wander around the seabed in search of parts to construct a submarine. Control is rotational. You can pick up as many as six objects at a time. You also get the opportunity to control an eel – useful for getting into small spaces. Those without much patience have the option to send away for a solution. Graphics are dull and lifeless in colour, though the bubbles and animation are good. Music is corny; it recites, "I do like to be beside the seaside." I suppose I could play it once or twice, since it's on the same side of the disk as *Airwolf II*.



Great Gurianos is the last of the trio. You control Gurianos on his most difficult mission yet. He must fend off natural missiles fired at him by flying nasties. By hitting certain objects with your sword, you can increase the energy of your sword, shield and armour. Every now and again, he will have to fight an awesome warrior. Use shield to fend off his blows, and sword to stab him. Graphics are big and very colourful. Sound-effects during the game are bad. The only music is during loading. **CB**

SECOND OPINION

I enjoyed all three of the games, which certainly represent good value for money. Airwolf II *and* Gurianos *are the more immediately rewarding with plenty of action, but all of them will prove testing in the long run. It's nice to see a compilation of games that haven't been released before. Let's hope there's more to come.* **BW**

GREEN SCREEN VIEW

All three are OK

The Verdict

GRAPHICS 59%
☐ Large and colourful in *Great Gurianos*.
■ Dull in *3DC*.

SONICS 82%
☐ Fantastic range of good music.

GRAB FACTOR 73%
☐ *Airwolf II* is the easiest to play.
■ The other two are more like space-fillers.

STAYING POWER 71%
☐ Lots to get into with all three games.
☐ *Airwolf II* and *3DC* are mappable.

AA RATING 71%
☐ Three very different games for the price of one.

 Is this a biscuit?

WONDERBOY

Activision, £9.99 cass, £14.99 disk, joystick or keys



I have been playing this game in the arcade near me for quite a while. I'm still no good at it, but there was something about it that kept me playing – until, that is, I saw someone score over 250,000 on it. I don't know why, but I felt quite inadequate after that. Anyway, this version I looked forward to, though I did in no way expect it to live up to the arcade standards.

The Verdict

GRAPHICS 58%
- ■ Dull colours and slow movement.
- □ Great loading screen.

SONICS 51%
- □ Good music.

GRAB FACTOR 65%
- ■ Slow movement takes a while to get used to.
- □ Interesting quest to complete.

STAYING POWER 72%
- □ Seven territories of four lands of four areas.
- □ Life gets harder as you progress.

AA RATING 68%
- ■ Not quite what it could have been.

You play Wonderboy, in his long and arduous mission to rescue his girlfriend Tina. Tina has been kidnapped by the evil king in a land far, far away. To get to him, you must traverse seven territories. Each territory consists of four lands and each land consists of four areas. Confused? Me too! Anyway, you will understand if you play the game. At the end of each territory you will come face to face with an ogre. Defeat him at all costs – mainly because you cannot get onto the next territory without doing so.

On your way you can pick up fruits, by jumping into them. There are also eggs which contain a useful item: an axe, a skateboard – which you ride – or a guardian angel. Be careful to jump over obstacles and to throw your ever-replenishing axe at the killer frogs, bees and snails. If they hit you, you die.

The first thing I have to say is that in almost every "true to life" aspect, this version is similar to the arcade one. The music is the same – or rather, attempts to be the same. The graphics are dull in comparison not only to the arcade version but also to other games for Arnie. However, this game is not too bad. Its slow animation is annoying, but I got used to it. I enjoyed it, and I wish it were mine to keep – mainly 'cos it saves me 20p a go! **CB**

SECOND OPINION

This one's got quite a lot going for it – a cute character, scrolling action, varied weapons and lots of adversaries. It does give the impression of being a less-than-perfect conversion, but I found it addictive. The multiple starting points through the levels are useful. I don't think this will disappoint many people – it's fun. **BW**

GREEN SCREEN VIEW

Nice and clear

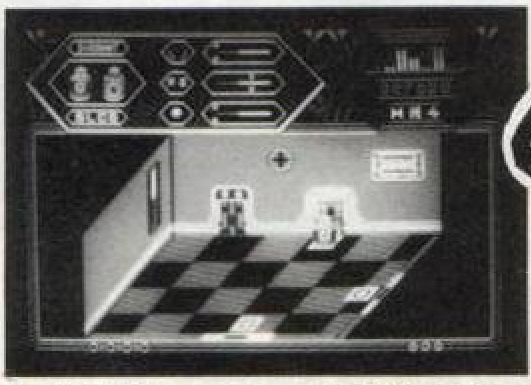
FIRST-DAY TARGET SCORE
23,000

FIFTH QUADRANT

Bubble Bus, £8.95 cass, £12.95 disk, joystick or keys



Fifth Quadrant is based on an old and tired theme. It mixes Aliens with the standard Knightlore qualities. In other words, you have a choice of four robots, each one in a different location.



The Verdict

GRAPHICS 62%
- □ Intricate robot designs.
- ■ Drab colours.

SONICS 48%
- ■ A few zappy effects.

GRAB FACTOR 57%
- □ Slog is less confined than the rest and thus lets you see some of the ship.
- ■ Not easy to get into.

STAYING POWER 65%
- □ Difficult mission to complete.
- □ Tasks and multiple characters keep things interesting.

AA RATING 60%
- ■ I'd have preferred it in the budget range.

You start as Slog, the captain and pilot of the ship. Slog is annoyed that his old compubrain is slower than the other robots. You can swap roles among Slog, Plot the ship's navigator, Knut the engineer, and Bodd. (What a name! I often wish I had been christened Bodd.) Bodd is a bit of a coward and, to be blunt, pretty thick – the Lofty of the spaceship.

Your mission is to use each of the four robots to rid the ship of the intruding Zimen. You do this by freeing each robot and logging it into the bridge computer. (What's Bridge got to do with it? This is no time for games!)

The Zimen appear in most rooms and can be zapped by the robots if they're carrying a weapon. You can access various pieces of instrumentation replenishing energy, for example, or activating a computer display. This is where you'll need to decipher the alien language – not an easy task.

Graphics are detailed but lifeless and uninspiring. Sound is reminiscent of the old Vespas. Don't expect to be stunned by anything, but you will find plenty to keep you interested. The biggest annoyance is the speed of the robots – a bit too hard to control at times. **CB**

SECOND OPINION

I found this boring at first, just charging around trying to find something interesting and trying to get those wretched Zimen off my back. However, as you discover things like the wall consoles and energy-replenishing points it gets better. You'll certainly have to map it to get anywhere, and there will be plenty of tasks to keep you going. **BW**

GREEN SCREEN VIEW

No problems here.

FIRST-DAY TARGET SCORE
Free Slog.

The kid with a mission

SLAP FIGHT

Imagine, £8.95 cass, £14.95 disk, joystick or keys

No sooner does one game appear in which you pick up objects to enhance the power of your ship than a whole shower of them do. It's basically a logical extension from adventure games, where you can pick up objects that expand your abilities, which was then adopted in arcade adventures and now shoot-em-ups. I've found it's got boring rather fast but at least it provides variety in what might otherwise be ordinary games.

This is of the vertically-scrolling breed of shoot-em-ups and is another of those oh-so-popular coin-op conversions. The concept is simple enough: just fly about the screen as it scrolls beneath you and wipe out any aliens foolish enough to wander into your sights.

The background is colourful and varied, scrolling smoothly but slowly downwards. This slowness would be more annoying if you weren't usually busy concentrating on staying alive, rather than hurrying forward.

As you blast the aliens you'll notice some of them leave gold stars lying around when they're destroyed. Pick one of them up and it cycles one step through a menu of additional powers. Choose to have one of these and it will return to the start of the menu.

The eight facilities are: extra speed, return to normal shooting, shoot sideways, increase size and firing rate of ship, bombs in front of the ship, laser beam, homing missiles and shield. Of these the most useful are the homing missiles, which last indefinitely and home in on their targets. Once you've got these you can use them in conjunction with the shield and extra speed to create alien megadeath.

It's a playable game with slick graphics and plenty of variety. The weapon-choosing is unoriginal. And in the long run I think the game's just a little easy. Still a good game that won't disappoint action fans. **BW**

FIRST-DAY TARGET SCORE
20,000

SECOND OPINION

A tired subject: pick up objects to increase firepower; blast away. It may not win points for originality, but is very playable and addictive. **RpM**

GREEN SCREEN VIEW

Looks good in green

The Verdict

GRAPHICS **77%**
- ☐ Colourful, varied backgrounds.
- ☐ Smooth, slow scrolling.

SONICS **71%**
- ☐ Good title tune and effects.

GRAB FACTOR **78%**
- ☐ Lots of blasting right from the start.
- ☐ Nice variety of additional weapons.

STAYING POWER **76%**
- ☐ Lots of tough aliens and variety.
- ■ Scrolling is a little too slow to keep the pace of action going.

AA RATING **76%**
- ☐ These games are still fun...
- ■ but the theme is wearing thin.



SHADOW SKIMMER

The Edge, £8.95 cass, £14.95 disk, joystick or keys

This game arrives with quite a reputation for its graphics on another computer. As ever, we're not going to judge a game by comparing it to other machines, but it has certainly retained much of the graphic quality.

You're flying a skimmer on the outside of a larger starship. The defences have been activated and can't be switched off. To survive you've got to make your way through three defensive zones and find the entrance back into the starship.

On each zone you have to locate and destroy an object that will cause a barrier to disappear, allowing you to pass on to the next zone. The object is the same in all three zones, so once you've found the first one you'll know what to look for in the next two.

Many of the locations have portals which produce various types of defensive craft. These fly aimlessly about, loosing off a constant hail of fire – which will will damage your shields. The shields also run out with the passage of time – so you have a time limit. You have three shields with which to complete the game.

The rest of the scenery doesn't do much except look pretty and get in your way. Your craft occasionally needs to flip upside-down to pass under an obstacle, a more vulnerable position because you can't shoot. You also have to take detours inside the ship using hatchways leading to internal corridors.

The graphics are very colourful but where the game falls down is on the action. The defences provide no sort of challenge – just shoot wildly. The three objects aren't difficult to find; you'll crack the game quickly. It looks impressive to start with but it's a game you'll solve quickly and never come back to. **BW**

FIRST-DAY TARGET SCORE
Complete the game

SECOND OPINION

The graphics are very pretty and sound-effects up to scratch. Unfortunately there is little in the way of gameplay. Will hold your interest for a while, but tends to be slow-moving. **RpM**

GREEN SCREEN VIEW

Fine.

The Verdict

GRAPHICS **83%**
- ☐ Detailed and colourful sprites and backgrounds.
- ☐ Nice explosions.

SONICS **68%**
- ☐ Good title music.

GRAB FACTOR **72%**
- ☐ Interesting to explore.
- ■ Defences provide little challenge.

STAYING POWER **52%**
- ☐ The object to shoot isn't always easy to find.
- ■ The game isn't large or complicated enough.

AA RATING **58%**
- ■ Don't be deceived by good looks.



EXOLON

Hewson, £8.95 cass, £14.95 disk, joystick or keys



Raffaele Cecco may not be a familiar name to you, but if I tell you he wrote *Equinox* from Mikro-Gen, you'll know he's building quite a reputation for great games. His latest is released by Hewson and should be an enormous success.

The hallmark of *Equinox* was a combination of brilliant graphics and fascinating gameplay. This is repeated here but in a completely different type of game. It's an unadulterated bomb-bullet-and-blast'em game across 125 screens of action. It's split into five zones of 25 screens each. You have to make your way from left to right across the screens, and once off the edge of one screen there's no going back.

The character you control has two weapons and two fighting modes to destroy the deadly alien forces. The weapons are a missile launcher on your back and a blaster. The missiles arc out in front of you to destroy larger obstacles in your path, and the blaster shoots straight in front of you to kill the smaller alien forces.

The first alien you come across is a large piece of artillery that fires off single shots at you. You have to duck underneath its bullets and loose off a missile that will shatter the gun into a myriad of flying pieces. The explosions really are something else – chunks of alien equipment flying all over the screen.

The gun is followed by a few more large but harmless obstacles. Then the fun really starts. Aliens will start flying on from the right of the screen, in movement patterns that wobble up and down, circle around or accelerate towards you. The blaster can zap them, but their constant height changes will often force you to leap up and down to get them. They will keep coming at you until you near the right-hand edge of the screen.

The way the aliens stop when you get near the edge of the screen is a measure of the thought that's gone into the gameplay: it means you don't get surprise deaths from things appearing just as you're about to move off screen.

A particularly malevolent alien is the birth-pod: a large sphere full of wriggling objects. When you missile it, it releases a horde of red spheres which have to be quickly zapped with the blaster before they disperse.

Missile launchers are tricky because they launch shells straight at you, which have to be shot by the blaster. They come on two levels, so you have to duck and stand up very rapidly as you advance on it. This is another instance where the shells stop coming as you get close, in order to give you a fair chance.

One of the nastiest dangers is the guided-missile module. This sends a missile after you as soon as you appear on screen. You can sometimes avoid the missile, but the best solution is to destroy the guidance module with your own missile as fast as possible. There are many other dangers including land mines, combined guns and launchers, and hammers that appear from the floor.

That little lot gives you plenty of trouble, not helped by your limited supplies of both bullets and missiles. The layout of the screen can also be awkward, forcing you to jump over things or choose between two possible levels to proceed forward. You get between platform levels by means of teleporters – which can also come in handy for getting you out of trouble.

The news is not all bad. There are plenty of replenishment units for the blaster and missiles to keep your blasting ability going. Each of the five sections also has a module where you can put on an Exoskeleton. This gives you a double blaster and makes you invulnerable to things like land mines and hammers. However, if you use it you don't get a bravery bonus at the end of the section.



Guns loos

Birth-pod releases hordes of swarming red spheres

The hero changes into



The graphics can't be praised highly enough. As well as the explosions there's good animation, marvellously designed objects and screens and excellent use of colour. The gameplay is compulsive and needs constant concentration to survive. You'll not only marvel about how this game looks but you'll be totally hooked by the action. **BW**

FIRST-DAY TARGET SCORE
40,000

I'm a slumber-hack and I'm okay...

MASTER GAME





The Verdict

GRAPHICS
- The meatiest explosions you've ever seen. **96%**
- Superb use of colour and animation.

SONICS
- An okay title tune and effects. **72%**

GRAB FACTOR
- Addictive and challenging gameplay. **95%**
- Good variety of opponents and obstacles.

STAYING POWER
- 125 screens to get through. **92%**
- Not much thought or strategy required.

AA RATING
- Worth buying just for the graphics. **93%**

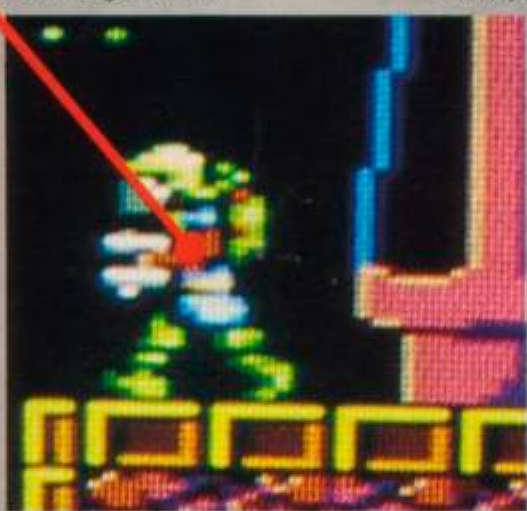
f small but deadly bullets

Teleporters can get you out of trouble fast

How about that for an explosion!

exoskeleton using this module

A tricky gun: just keep advancing and firing



EXOLON

SECOND OPINION
Just eyeing the graphics tells you you're in for a winner – superb. Loads of breathtaking scenery, the best explosions around, fancy sound-effects – and it's highly playable. My kind of game: blast anything and everything. **RpM**

GREEN SCREEN VIEW
Sho-sho-shoot it up. 'Cause it's all visible.

STARFOX

Reaktor Ariolasoft, £9.99 cass, £14.99 disk, joystick or keys

I'll bet lots of you remember the *Starstrike* games. Number one was one of the earliest Amstrad shoot-em-ups and number two featured solid 3D ships. The team that brought you those games and did the conversion of *Starglider* calls itself Realtime, and this is the latest project.

SECOND OPINION

Eye-catching graphics and smooth, fast-moving filled vector shapes make this game a real treat. The sound is suspect, but a small point when compared to the overall gameplay. **RpM**

GREEN SCREEN VIEW

No problems.

It's another game set in space and features filled-in 3D graphics similar to those in *Starstrike II*. It takes place within a cube called the Rubicon, where you have to complete eight tasks to get through the eight levels of play. The cube contains eight home planets, an invading planet, fuel ships, storms and an awful lot of hostile ships.

Your cockpit display provides information on your co-ordinates, weapon selected, fuel, speed and rear-view monitors. The alien ships come in several varieties – all solid and all fast. They attack in convoys, each convoy attacking in waves of one, two or three at a time.

The Verdict

GRAPHICS 90%
- Fast, filled-in 3D graphics.
- Excellent docking sequences and explosions.

SONICS 47%
- Blasting effects and little else.

GRAB FACTOR 87%
- Initially you'll enjoy the blasting.
- You might have trouble sussing out the Holocube.

STAYING POWER 91%
- Tasks provide lots of challenge and variety.
- Aliens adopting your weapons brings in a strategic element.

AA RATING 89%
- Well thought out and extremely playable.

You are initially armed with a weak laser but can upgrade your weaponry later. You'll need multiple hits with this to destroy ships, which explode in a satisfying ball of light. The task on the first level is to wipe out enough aliens, made much easier by a visit to a planet.

You first have to locate planets by flying near them – the instructions tell you how to find the first two. You can then activate an autopilot that flys you to the planet. You have to fly down a wormhole without damaging your shields against its sides, and dock with a mothership orbiting the planet. This graphic sequence is delightful, particularly when the mothership's tractor-beams pull you in stern first so that you first view the sequence in the rear monitors, and then are enclosed at the front.

The planets refuel the ship, replenish the shields and allow you to take on board more powerful weaponry. Each weapon produces a different graphic effect when used, but you can only find out their relative strengths through trial and error. This is important because on the next level the aliens will have adopted the weapon you used previously and developed a defence against it. This means you have to upgrade in the right order or get killed very fast.

Once the planets and alien convoys are detected they appear on the Holocube, a three-dimensional map of the Rubicon which can be viewed, rotated, and zoomed into or out of. When you come out of the Holocube you'll be facing in the direction that you were facing inside the cube.

The various pieces of instrumentation come in handy for keeping you alive. There's the enemy-locate option that automatically swings you to face an incoming ship, very useful because they're quite difficult to track otherwise. The fuel and shield indicators show you when you should run for safety or try to find a fuel ship. These provide another good docking sequence as you refuel through the nose of the ship.

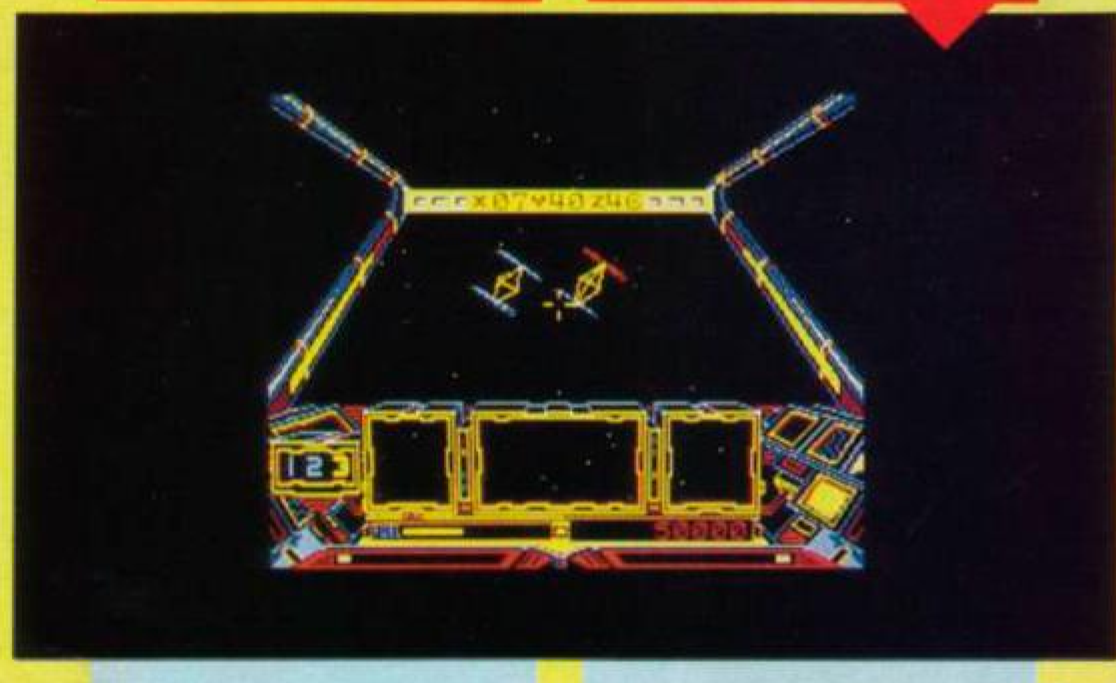
The combat is enjoyable and testing, but the crucial aspect is the missions you're set. On the second level you have to find an electron storm and report its location to one of the planets, as well as bumping off a good few aliens. The game now becomes a real battle not just to shoot ships but to complete tasks and get through the levels, not forgetting the strategic side of choosing weapons. A very slick and enjoyable package, stuffed full of great graphics and gameplay. **BW**

FIRST-DAY TARGET SCORE
Complete level 1



Mothership in sight, prepare to dock

A phalanx of alien ships blasts towards you



F-15 STRIKE EAGLE

Microprose, £9.95 cass, £14.95 disk, joystick or keys

You may be forgiven for thinking "Oh, no, not another flight simulation," but Microprose has come out with another classic. To my mind this one incorporates the skill and agility needed to fly, with the excitement of air battle.

What sets this aside from the others is the four skill levels: arcade, rookie, pilot and ace. Arcade doesn't give a true flight simulation but lets you get used to the aircraft's systems. The other three levels allow true flight simulation with the line of the horizon changing as you bank the aircraft.

Your plane's cockpit is very sophisticated, with all the latest technology crammed into it – there's even an ejector seat. You have a radar with three different range options. There is a display of weapons status showing how many of the on-board weapons you've used. It also shows when auxiliary fuel tanks have been used. This is very useful, as you might want to drop them to make your remaining fuel last longer. You also have a Horizontal Situation Display showing a map of the area over which your mission will be flown.

Your purpose is to fly eight missions, described fully in the manual. You can take any of the first seven missions but must complete the seventh mission to be able to try the eighth. The first mission is set in Libya in 1981. You must patrol the area and engage with any hostile aircraft only after they have shown some sign of attack. It doesn't really matter whether they engage you first or not – you won't be penalized for it.

The jobs is to fly over the enemy air-command centre and blow it up. You do this by arming your bomb. This will produce a small web in the middle of the screen. When the triangle, which represents the target, is in the sights, press Fire. Then you must fly back to base.

steadily getting harder. The third is Haiphong 1972, then Syria 1984, Hanoi 1972, Iraq 1981 and the Persian Gulf 1984. I didn't pass this on the "arcade" level.

The Verdict

GRAPHICS 68%
- ☐ Fast drawing of the vector shapes.
- ■ Boring shapes for missiles and targets.

SONICS 48%
- ☐ Good for a flight simulation.

GRAB FACTOR 83%
- ☐ Arcade level lets you get into the game.
- ☐ Excellent instructions and presentation.

STAYING POWER 87%
- ☐ Four skill levels.
- ☐ Each mission gets harder.

AA RATING 84%
- ☐ Love the game...
- ■ hate the nationalism.

SECOND OPINION

Moans first: I don't mind re-enactment missions, but when they're all in the Middle East or Asia where good old Uncle Sam's boys get to shoot up those "pinko commie punks", it gets right up my nose. Why not warring over Washington, bombing Beverly Hills or nuking New York?

Apart from that it's great. Skill levels to suit everyone, plenty of difficulty and lots of variety. My advice: buy the game and ignore the jingoism if you can. **BW**

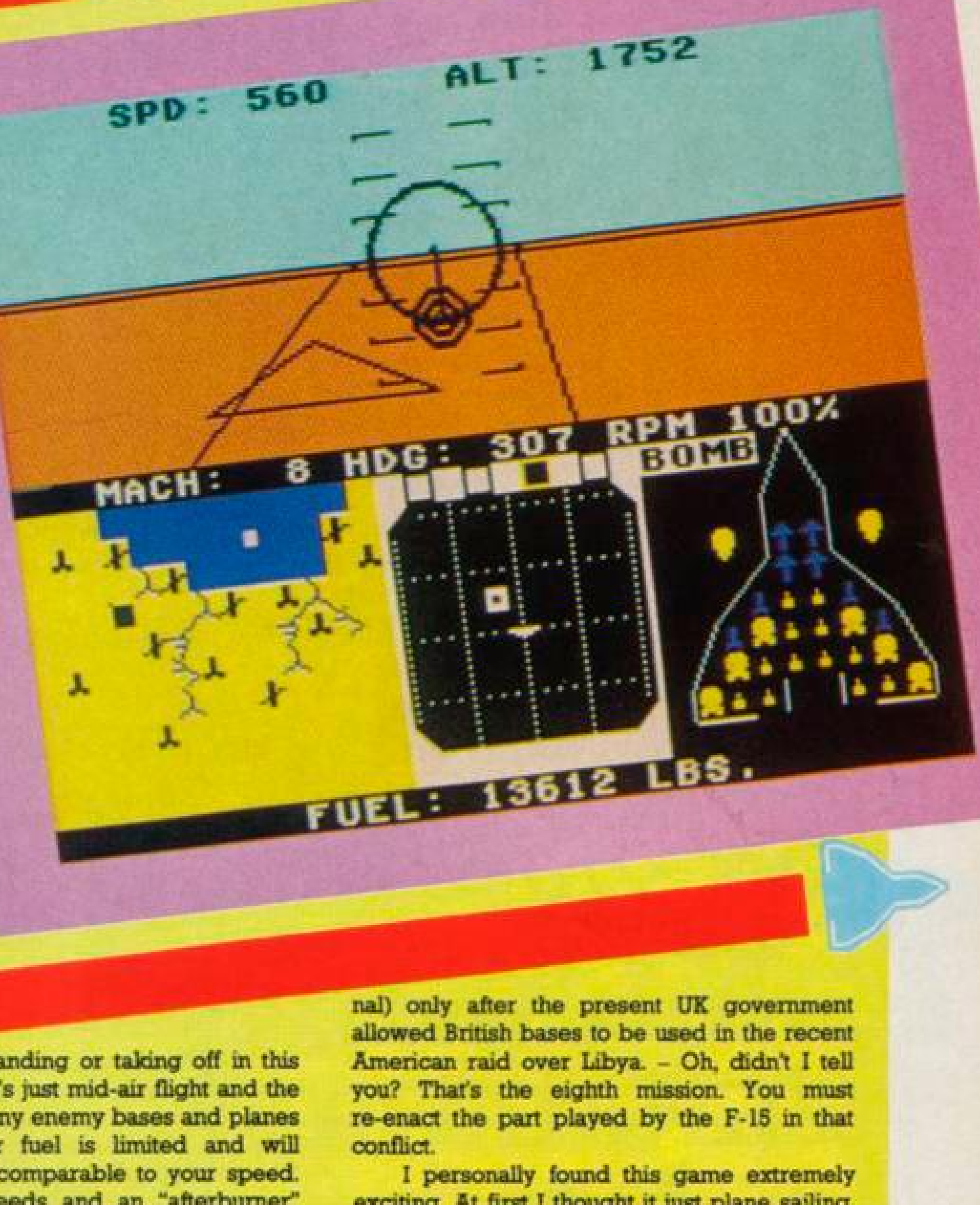
GREEN SCREEN VIEW

Clear and green as Mr Spock's blood – no problems.

AA RAVE

The politics leave a lot to be desired. I am sure that Microprose released it in this country (a conversion of the American original) only after the present UK government allowed British bases to be used in the recent American raid over Libya. – Oh, didn't I tell you? That's the eighth mission. You must re-enact the part played by the F-15 in that conflict.

Your F-15 engages over enemy territory



There is no landing or taking off in this flight simulation. It's just mid-air flight and the massacre of as many enemy bases and planes as possible. Your fuel is limited and will deplete at a rate comparable to your speed. You have ten speeds and an "afterburner" option. This will increase your thrust to 100%. If you need rapid deceleration you can use speed brakes.

Enemy planes will deploy air-to-air missiles, which you must avoid or confuse. This also applies to surface-to-air missiles. You have an on-board ECM jamming system which will confuse incoming radar-homing missiles. You can release a flare to divert heat-seeking missiles. You can engage enemy aircraft with medium-range missiles, short-range missiles or cannon gunfire.

The second mission is to fly into Egypt (1973) and destroy the command centre. The rest of the missions take the same format,

I personally found this game extremely exciting. At first I thought it just plane sailing, but when "incoming SAM" messages and the like started to appear on the screen, my blood started to race. When I got hit, the plane became extremely difficult to control and I battled with it all the way back to the base – but ran out of fuel just before reaching it. I ejected and was saved by my comrades.

The ground underneath you is a grid scrolling left to right and up and down. All targets appear in vector graphics. As I say, I liked it. You might think me a flight-simulation fan. You're right. **CB**

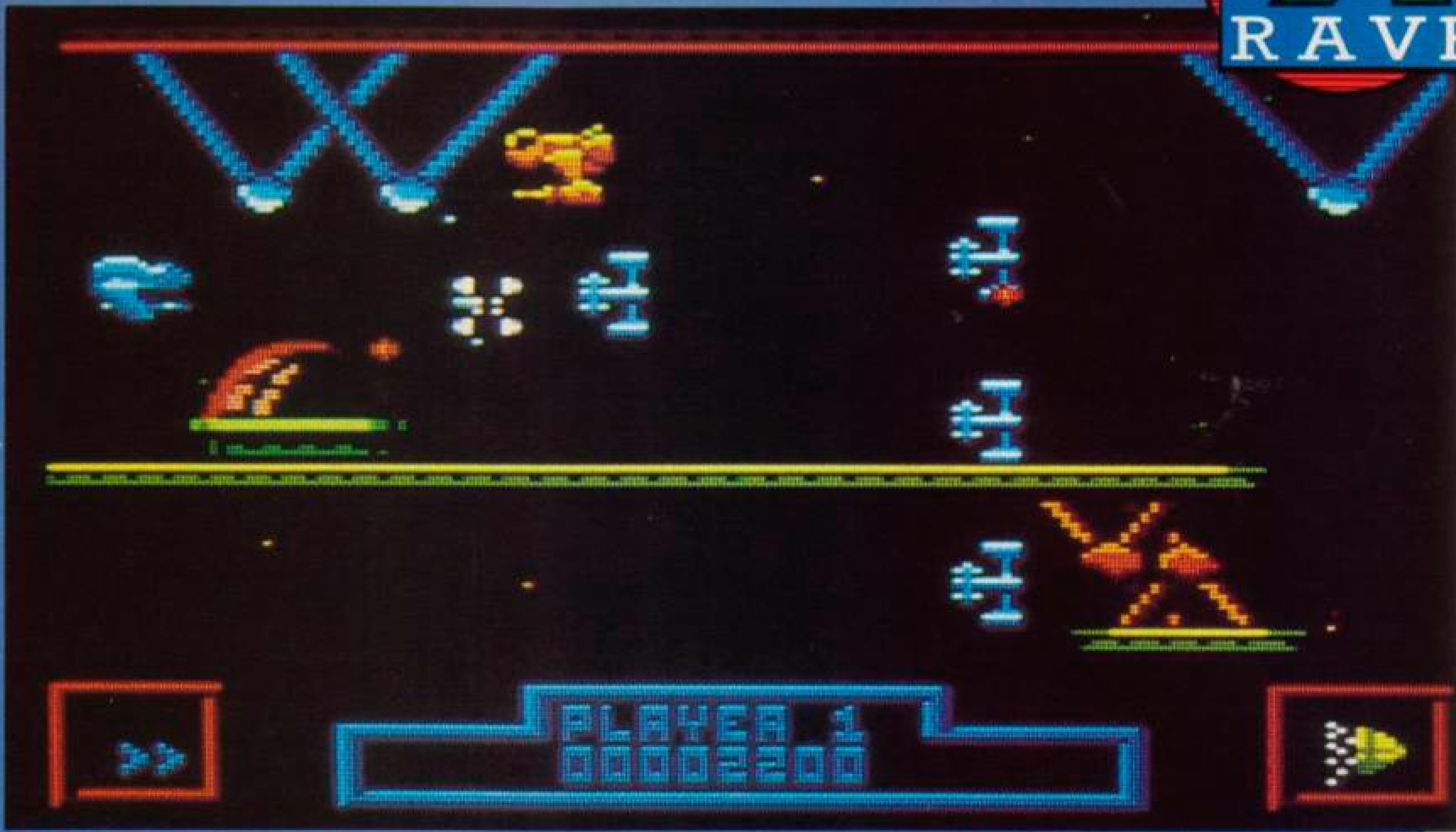
FIRST-DAY TARGET SCORE

Reach the eighth mission on the "arcade" level.

RAVE

ZYNAPS

Hewson, £8.95 cass, £14.95 disk, joystick or keys



An asteroid shower flying straight at you



A big mothership to blast to bits

THE LIVING DAYLIGHTS

Domark, £9.95 cass, joystick or keys



Bond in Gibraltar with the SAS

The first Bond game two years ago, View to a Kill, was hardly an auspicious affair. All the more reason for Domark to get its second one right – and it looks an awful lot better. I haven't seen the film so I don't know how closely the game relates to it. But that's a good thing: judge the game on its own merits, not the film's.

The game is split into eight sections, each representing a location from the film. You have to fight your way along the right-to-left scrolling levels, facing different dangers on each. You can jump and do forward rolls as you stand or run. Moving the joystick left brings a cursor onto the screen – it acts as a sight for your gun or any other weapon you're carrying.

The first location is Gibraltar. You're supposedly enjoying a harmless test of skill against the SAS. However there's an enemy out to kill you. SAS men pop up in the background scenery and shoot at you; you have to jump over rocks in the foreground that will otherwise trip you up. At the end of the level is the enemy you have to shoot, and then you can progress to the next level.

A strength gauge goes down as bullets hit you or you bump into or fall over things. When it reaches zero you lose one of your five lives and have to start the current level again. Strength can run out very quickly, so you always need to take lots of evasive action to stay alive.

Here we have a space-based shoot-em-up looking similar to *Nemesis*, but one that I feel will give enjoyment for many hours. You play the hero (there's a novelty!), who has escaped from an alien space station. You have stolen a Scorpion fighter which you must fly through all of the defences thrown at you by the surrounding aliens. Exciting, ain't it.

SECOND OPINION

This is certainly the best of the latest batch of horizontal-scrolling shoot-em-ups. There's plenty of variety in the alien attack waves, and the large motherships are impressive. I think most people will find it tough going – I did, but as you learn the wave patterns you can get further. Not quite up to Hewson's usual standards in terms of originality, but the graphics, sound and gameplay are as professional as ever. **BW**

GREEN SCREEN VIEW

Doesn't help the collision-detection problem, but manageable.

Imagine your pulse rate rising as you set off in your Scorpion fighter. Aliens blocking your path. Your only way out is to shoot like crazy. When you shoot some of the aliens they drop little capsules which you can pick up. The capsules can be used as weapon enhancements or just collected for points and to step through the weapon options available. The first option increases your speed, the second increases your firepower, the third activates your bomb thrower, while the fourth and fifth enable missile targeting and seeker missiles.

The method is similar to *Nemesis*. Every time you pick up a capsule your "weaponry activation indicator" displays the next weapon option icon: speedup, firepower, bombs, missiles or seeker. To activate this mode you must keep your finger on the Fire button until your ship starts to flash. Keep your finger there and collect another capsule, which enables the selected mode.

The most common enemies are the small craft, which can be destroyed with one shot by a laser, bomb or seeker missile. Homing missiles cannot lock on to such small targets. Along the way you will encounter ground installations, which are difficult to destroy both in respect of firepower and accessibility.

Alien command ships are bigger than the other spacecraft but to my mind can be destroyed a lot more easily than the instructions state. At the end of level one you will encounter a very aptly named mothership. I found it almost impossible to destroy. But if you hang around long enough without getting destroyed yourself, you will gain entry to the next level.

On the next level you will be confronted by one of the many "natural hazards" which will hinder your attempt to reach safety. These hazards are asteroids, shaped very much like the cabbages in *Moon Cresta*. They move about quite well for asteroids and cannot be shot. It really starts to get difficult when the alien craft appear as well.

The collision detection is poor, and very annoying at times. After a few goes you'll realise where the danger points are and how to steer through them. It took me quite a while to beat the mothership – the key is in the weapon you're carrying. Every time you get shot or crash into the scenery, you will start off at the beginning of the level without your weapons. On later levels there are intermediate starting spots to make things less frustrating.

Graphics are better than games like *Nemesis* – much cleaner and more colourful. Anyway, a very good game worth getting just to listen to the music. It has that funky sort of spaced-out feeling to it with an unexpected chord here and there. **CB**

FIRST-DAY TARGET SCORE
16,000

The Verdict

GRAPHICS 77%
- ☐ Smooth-scrolling scenery.
- ☐ Good use of colour.

SONICS 71%
- ☐ Brilliant title music.

GRAB FACTOR 85%
- ☐ Fast and easy shooting.
- ■ Collision detection is rather annoying.

STAYING POWER 82%
- ☐ Varying weapon choice adds to the fun.
- ☐ Plenty of tough levels to get through.

AA RATING 83%
- ☐ Worth buying for the funky music alone.

At the end of the level a screen representing Q's laboratory appears. Here you can choose one of four weapons or objects to carry in addition to your ever-present Walther PPK. You have only a short time to decide, and only one of the objects will be of real use on the next level.

SECOND OPINION

Control can be frustrating, spoiling the otherwise lovely animation of Bond. But the whole game has been well designed and is a pleasure to play. Plenty of action and masses of variation. **RpM**

GREEN SCREEN VIEW

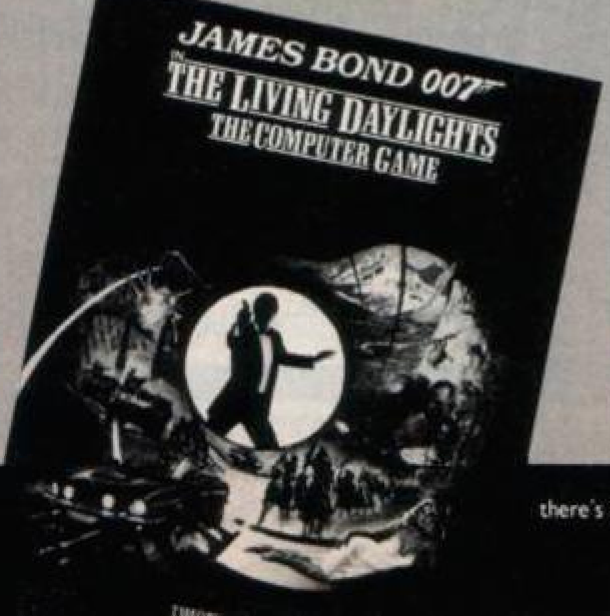
Fine.

The objects vary from night-glasses and a hardhat on the defensive side to bazooka, missile-firing pen and ghetto-blaster (rockets rather than rock) on the offensive side. Some weapons can be used only once; others will be in continuous use once activated.

On the second level you're joined by Koskov, a KGB defector, who will follow you through the remaining levels. On the third you have to jump over and duck under pipes while men on gantries throw things at you. Next comes a very tricky level where a milkman throws deadly bottles of gold-top at you at the same time as a helicopter bombs you. After that it gets even tougher with a fairground crook floating lethal balloons at you.

The scrolling backgrounds are nicely done, and so is the animation of Bond and some of the other characters. The action is a bit stop-go at times, but there's always something to do – either running and avoiding or shooting. There are some good elements of the Bond music on the title screen and between the levels.

I enjoyed this latest Bond game. It's got plenty of action and difficulty. My main criticism is that with most of the characters who pop up out of the scenery it's impossible to avoid their bullets, and therefore the element of skill is diminished. Daylights is not a classic by any means but should provide plenty of entertainment. **BW**



FIRST-DAY TARGET SCORE
10,000

The Verdict

GRAPHICS 70%
- ☐ Colourful scrolling backgrounds.
- ☐ Good animation of Bond.

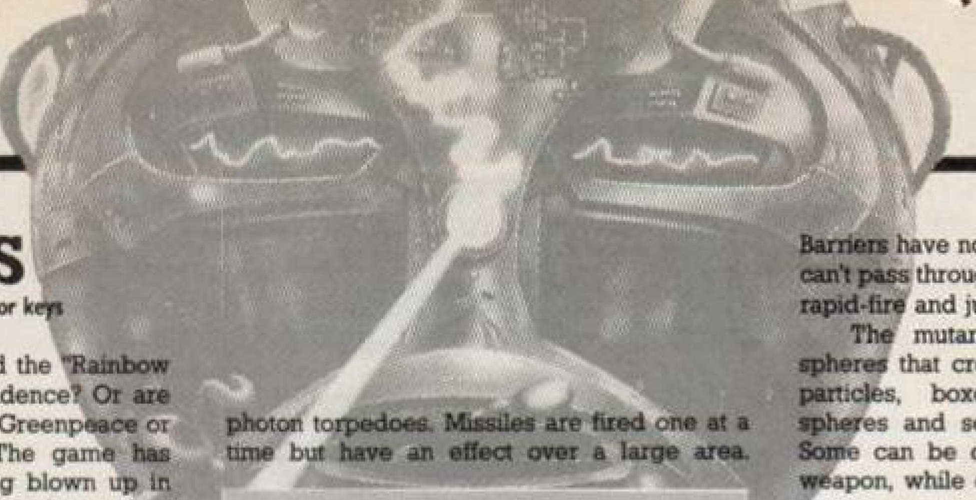
SONICS 66%
- ☐ Some good bits from the theme tune.

GRAB FACTOR 71%
- ☐ Good mix of jumping, rolling and shooting.
- ☐ Different challenge and weapons in the eight levels.

STAYING POWER 65%
- ☐ The levels get tough.
- ■ The action is a bit stop-go and can all be over very quickly.

AA RATING 68%
- ☐ Much better than the last Bond game.

there's a milkman about



MUTANTS

Ocean, £8.95 cass, £14.95 disk, joystick or keys

The ship in this game is called the "Rainbow Warrior". Could this be coincidence? Or are the programmers members of Greenpeace or the French secret service? The game has nothing to do with ships being blown up in New Zealand, so let's presume it's the product of a warped mind.

The whole thing does in fact take place in space, where you have to collect a component from each of 15 zones and assemble a self-destruct mechanism in the 16th zone. In each of the 15 zones there is a different breed of alien mutation that has to be overcome in order to get the component.

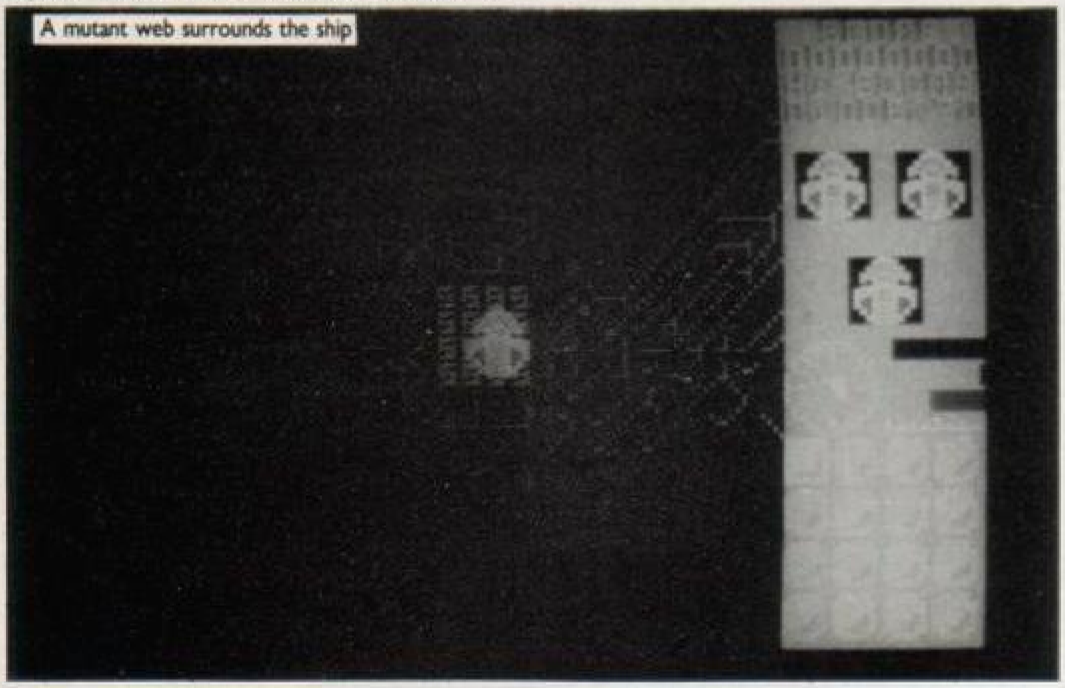
You can choose to take one of three weapons into a zone: missiles, barriers or photon torpedoes. Missiles are fired one at a time but have an effect over a large area.

SECOND OPINION

I have to disagree with Bob: he has been too harsh on the graphics. In general they are pleasing and there's plenty of variety. An enjoyable game to start with, but the action becomes too repetitive. **RpM**

GREEN SCREEN VIEW

All the monsters from miles around are visible.



A mutant web surrounds the ship

Barriers have no effect on you but the mutants can't pass through them. Photon torpedoes are rapid-fire and just like any other bullet.

The mutants come in various guises: spheres that create a deadly web, clouds of particles, boxes that release swarming spheres and several other nasty problems. Some can be dealt with only by a specific weapon, while others can be got past with a prayer and flying by the seat of your pants.

The Verdict

GRAPHICS 56%
- ☐ Some mutants are interestingly presented.
- ■ Most things are dull and simple in design.

SONICS 24%
- ■ A few irritating effects.

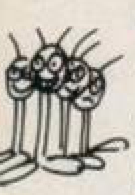
GRAB FACTOR 59%
- ☐ 15 zones are intriguing at first.
- ■ Mutants don't always seem to behave as originally intended.

STAYING POWER 52%
- ☐ Tricky getting all the components.
- ■ Some zones are too similar and too easy.

AA RATING 54%
- ■ A disappointing game with a good idea.

It's a very intriguing game that is initially fascinating to discover. However, some of the zones just aren't up to scratch and show strong signs of having lost something in translation. The graphics are also disappointing, mostly drab and simple in design. A truly average game. **BW**

FIRST-DAY TARGET SCORE
Clear six zones



QUARTET

Activision, £9.99 cass, £14.99 disk, joystick or keys

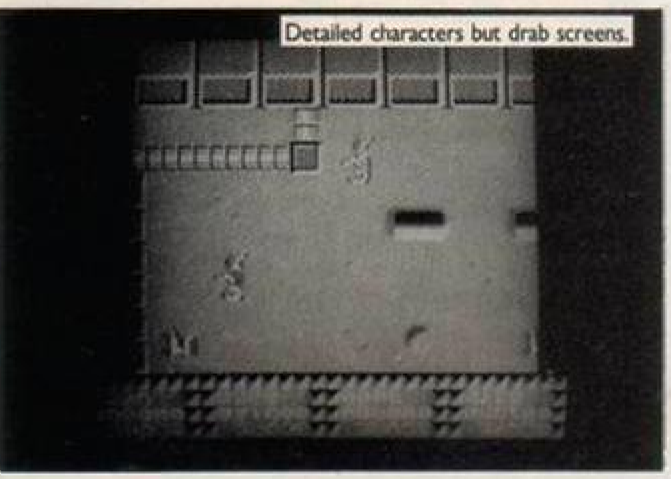
The derivation of this game is obvious – it was a four-player arcade game trying to follow up on the success of *Gauntlet*. Like the US Gold smash on home micros, it allows action by two players only, rather than four. The gameplay is much different from *Gauntlet* but will it be anything like as big a hit?

The game is made up of 15 levels. They cycle around, getting harder. The aim on each level is to destroy a large mechanical monster to get a key, and then use the key to get through the exit to the next level. You can control one of four characters, all with very springy jumping powers, a weapon and the ability to crawl under things.

The levels are made up of platforms, obstacles and conveyor belts which you have to get through to find the monster. On the way there are lots of portals that spew out other alien creatures to attack you. The monster takes many shots to destroy, leaving behind the exit key.

The aliens come in many forms: a flying fist, spiky balls, robots and other bipeds. They can stun you on contact, causing a loss of energy. Your energy reserves are substantial and take a long while to use up.

There are objects to pick up along the way, including a shield and a jetpack with which you can float instead of walk and jump. Others provide extra jumping power, change your weapon, stop the aliens, or destroy them all.



Detailed characters but drab screens.

The Verdict

GRAPHICS 37%
- ☐ Detail on most characters.
- ■ Appallingly bad use of colour.

SONICS 22%
- ■ A few simple effects.

GRAB FACTOR 42%
- ☐ Some interest in exploring first 15 levels.
- ■ Action is repetitive and won't get you going.

STAYING POWER 35%
- ■ Levels lack variety.
- ■ Even two-player games lack excitement.

AA RATING 38%
- ■ A disappointing arcade conversion.

SECOND OPINION

It is hard to believe that a game can come out looking worse when converted from a Spectrum. Activision has managed it. A real pity, as there is a good idea behind Quartet. *Unfortunately it is lost somewhere in the colour clash, tinny sound and horrific use of colour.* **RpM**

GREEN SCREEN VIEW

Surprisingly clear.

Sounds okay so far, but the problem is that the graphics are appalling and the gameplay monotonous. The characters are detailed, but the use of colour is terrible – portals disappearing in the drab backgrounds. Games last for ages and you get stunned (die) so many times there's nothing to get your adrenalin going. Disappointing is about the best to be said for it. **BW**

FIRST-DAY TARGET SCORE
See all 15 levels.

Hung, drawn and quartetted

SAMURAI TRILOGY

Gremlin, £9.99 cass, £14.99 disk, joystick or keys

Yawn, yawn. Another combat game. Surely this type of game has had its day. Samurai Trilogy does in some way attempt to give something new to combat gaming. But ah, well.

Apparently deep in the oriental province of the Nang River there lives a breed of fighting warriors highly skilled in the arts of karate, samurai, and kendo. You play the part of a trainee under the Supreme Master Chu Yu – it gets cornier. Chu Yu will impart his wisdom to you as you battle to become a samurai warlord.

You can choose one of the three disciplines. In karate your possible actions are flying kick, spin kick, turn, punch, backward and forward shuffles, high kick, jumping kick and a swapping chop. In kendo: jumping cut, exchange cut, lunge, overhead cut, and the usual forward and backward movements. In samurai: overhead cut, side cut, point thrust, overhead parry and kick, and the usual movements.

Before facing each opponent, you must decide which of the five defence and offence options you should put more bias on. You do this by allocating points – you have five – to each option. It's complicated, but you'll understand when you play the game.

SECOND OPINION

Barbarian *was fast, well animated and funny. This isn't. It's got three types of fighting, which will provide variety, but there's not a lot else going for it. The combat game doesn't have anywhere else to go except downhill, I'm afraid. I think someone should decapitate them quick.* **BW**

GREEN SCREEN VIEW

No viewing difficulties.

I'm very sorry, but I don't like this game. The movement of the characters is sluggish and badly animated. The different moves are very limited and lack potency. The graphics are made up of boring colours, though more than one colour is used in drawing the characters. Sound is uggh! Certainly not one for my collection. I will be glad to give it back to Bob. **CB**

FIRST-DAY TARGET SCORE

Beat someone!



The hack and thrust of combat action

The Verdict

GRAPHICS 46%
- ■ Drab colours used for everything.
- ■ Poor animation.

SONICS 39%
- ■ Say what?

GRAB FACTOR 49%
- □ A combat buff might like it initially.
- ■ Tape loading is a long yawn.

STAYING POWER 47%
- □ Three different disciplines to get into.
- ■ Same old combat stuff.

AA RATING 47%
- ■ A poor combat replica.

ELECTION

Virgin, £9.95 cass, joystick or keys



Virgin missed the election by a mile when this game finally hit the streets, but if I know them they'll just re-release it the next time an election comes around. As a game it still holds together anyway, and you don't need all the hype surrounding the real thing to appreciate it.

You can take the role of one of the five party leaders: Matcher, Ninnock, Owing, Pig-iron or Daniel Pauls (the leader of the Idealist party composed of celebrities). The task of each is to get 101 votes by a mixture of dodgy dealings.

SECOND OPINION

Not my type of game, but it will appeal to those who enjoy a spot of electioneering. **RpM**

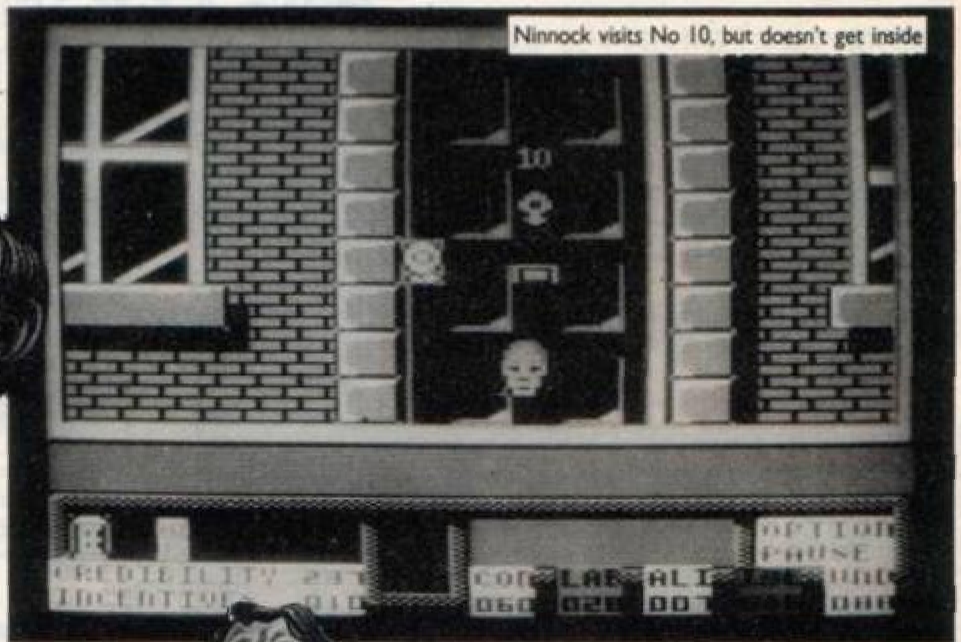
GREEN SCREEN VIEW

Few graphics. All visible.

There are 40 characters in the game and many other votes that can be gained at named locations. Some characters start off with party allegiances and can help you in your task to win others over. The main method of getting votes is dropping manifestos in named locations, each location gaining you ten votes.

As you race around the 108 locations you can access a menu of options. You can take, drop, give, ask, order, pause, canvass or slur. Take, drop and give refer to objects; ask, order, canvass and slur refer to people.

Objects in the game can be given to people as incentives or to increase your slurring power. Some objects enhance your credibility rating (resistance to slurring) or the financial incentives (bribes) you can give.



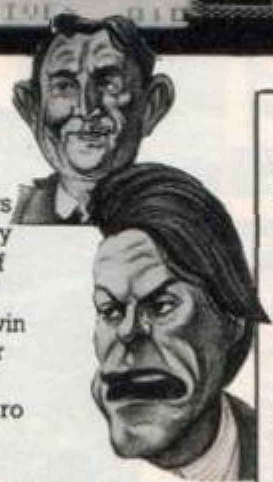
Ninnock visits No 10, but doesn't get inside

You can ask characters what they think of you or try ordering them to help you. If they aren't co-operative you can try to canvass them to win them over to your side, or resort to slurring them to reduce their credibility to zero and putting them out of action for a while.

The game is entertaining with funny touches and an interesting task. I found it difficult to get anywhere because it's extremely difficult to build support, not helped by occasional crashes. I think the path to victory needed to be better thought out but otherwise it's an enjoyable game. **BW**

FIRST-DAY TARGET SCORE

Get over 50 votes



Lies, damned lies, and politicians

The Verdict

GRAPHICS 59%
- □ Good caricatures of the politicians.
- ■ Most locations are plain and uninteresting.

SONICS 47%
- ■ Similar to Geoffrey Howe's speeches.

GRAB FACTOR 68%
- □ Interesting exploring and trying to win votes.
- ■ Crashed several times.

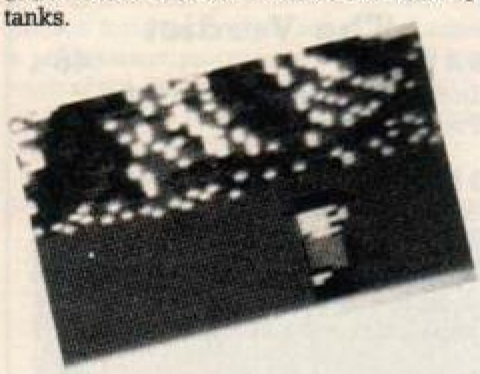
STAYING POWER 67%
- □ Difficult to get elected.
- □ Several different electioneering tactics possible.

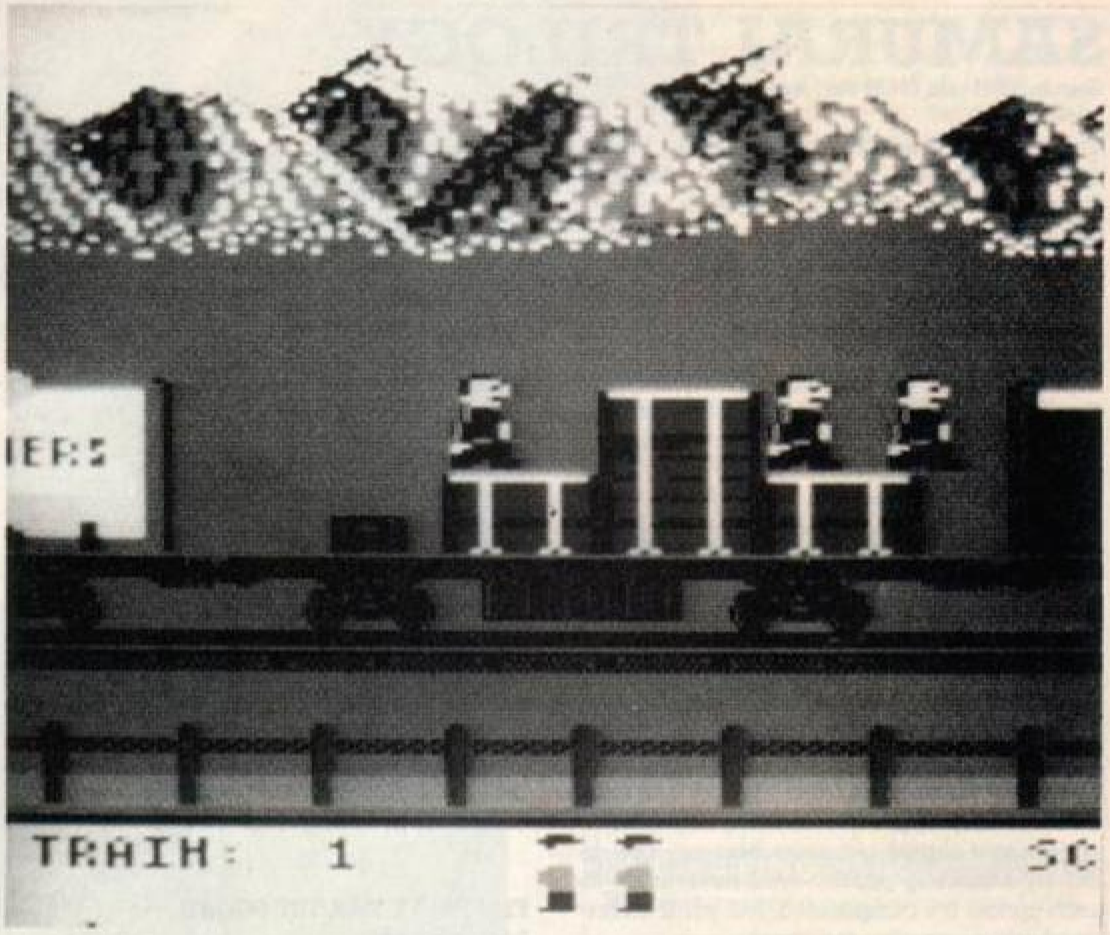
AA RATING 67%
- □ A bit late but enjoyable still.

MOUNTIE MICK'S DEATH RIDE

Reaktor, £4.99 cass, joystick or keys

A race along a train, similar to *Express Raider*. As the train scrolls across the screen you have to make your way along it, shooting the bad guys. Watch out for tunnels and leaking gas tanks.





The Verdict

GRAPHICS 52%
□ Fairly good scrolling of the train.
■ Characters and carriages are chunky.

SONICS 61%
□ Some nice music tootles along.

GRAB FACTOR 55%
□ Tricky task getting along the train.
■ Control is awkward to get used to.

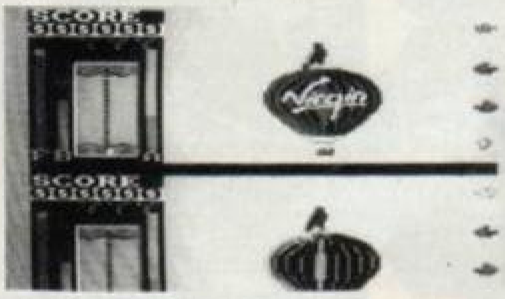
STAYING POWER 60%
□ Tunnels, gas leaks and many trains to deal with.
■ Some obstacles are frustratingly difficult to get past.

AA RATING 61%
□ Not bad for a fiver.



BALLOON CHALLENGE

Virgin, £7.95 cass, £12.95 disk, joystick or keys



Re-live the hot-air balloon crossing of the Atlantic with some silly bits thrown in. Compete against another balloon; control eagles to protect your balloon against the weather and man-made dangers.

The Verdict

GRAPHICS 54%
□ Doesn't the balloon sink realistically?
■ Mostly simple and uninspiring little characters.

SONICS 44%
■ A few unstimulating effects.

GRAB FACTOR 52%
□ Always something to shoot at or do.
■ Tasks tend to be simple and unexciting.

STAYING POWER 56%
□ Difficult to get across the pond.
□ Two-player game adds interest.

AA RATING 53%
■ Lacks variety, making it repetitive.

DEATHSCAPE

Starlight, £8.99 cass, £14.99 disk, joystick or keys

Back to the good old days of trench flying. Hordes of aliens whiz straight at you to be blasted away. Not very subtle, but there's no shortage of action. You've probably seen others like it.

The Verdict

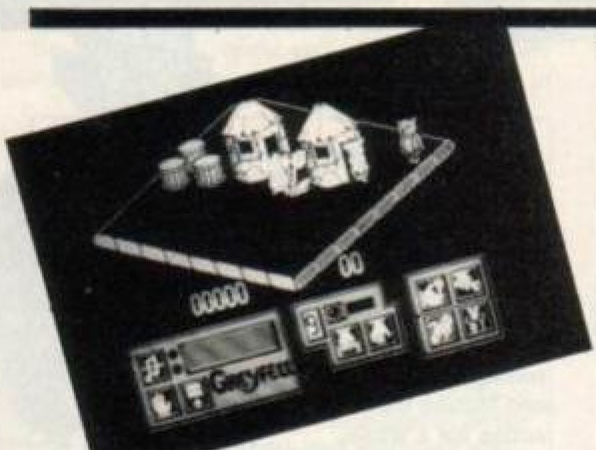
GRAPHICS 64%
□ Some nice ship sprites.
■ Little else on screen.

SONICS 65%
□ Good music.

GRAB FACTOR 55%
□ Certainly no shortage of things to shoot.
■ Not much difference between the attack patterns.

STAYING POWER 48%
■ Wave after wave of the same sort of stuff.

AA RATING 47%
■ Definitely overpriced for what it is



GREYFELL

Starlight, £8.99 cass, £14.99 disk, joystick or keys

The slowest isometric-3D game I've ever seen. If the single-colour graphics didn't put you off, the terribly slow gameplay will. Even hardened 3D arcade adventurers will find it difficult to stick with this one.

The Verdict

GRAPHICS 25%
■ Single-colour graphics.
■ Movement is soooooo sloooooooow!

SONICS 34%
■ Not very impressive effects.

GRAB FACTOR 24%
■ Takes ages to get anywhere in the game – both in terms of movement and puzzles.

STAYING POWER 32%
□ If you can persevere, the puzzles may provide you with interest.
■ But the frustrating gameplay is likely to prove too much.

AA RATING 28%
■ Nowhere near the standard of other isometric-3D games.

 Branson's in a pickle again

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Arkham Manor comp winners

Congratulations to those who worked out that it was Norman St John Gilham MP who committed the murder in our "Detect a prize" competition (*AA* 22). Many of you thought it was Dr Ebenezer Monteiro or Lord Nagel of Maple. But it wasn't Dr Ebenezer because a burglar wouldn't have left £20 notes lying around. And Lord Nagel was a tee-totaller, whereas there were two glasses of whisky.

The winner of the first prize, a pocket camera, is **Kyle Chambers** of Ascot. The 30 runners-up, who get a copy of the game, are:

RG Messenger of Abernethy, RJ Tierney of Preston, Iain McKinnon of Glasgow, Brian Kelly of Malahide, E Rooney of Liverpool, Mohammed Amjad of Edinburgh, Daniel Gooding of Islington, Paul Jones of Warley, Arren Lear of Leicester, GFW Smith of Putnoe, Ian McCulloch of Sunderland, Daryl Ward of Warrington, Steven Webb of Brentwood, Stephen Tindling of London E16, Liam Hogan of Nenagh, Simon Andrews of Gosport, O Cunningham of Livingston, M Jackson of Goole, Stephen Masters of Choppington, K Macaskill of Alloa, Simon Gibbs of Sheffield, Graham Ross of Yeading, Peter Nuttall of Liverpool, Chris Boyle of Derry, Stephen Impey of Impington, Wayne Nelson of Bristol, Debbie Bainbridge of Bargoed, Paul Lynch of Dublin, Karen Brett of Folkestone, Wallace Hunter of Wishaw.

Disk prize

Many readers are obviously eager to get hands on hardware goodies: the response to the "Silicon Slices" competition in *AA* 22 was phenomenal. Entries are still dribbling in. Few answered the questions incorrectly. Just to put your mind at rest, here are the correct answers:

1 The Megadrive can store 706k of data.
2 Your Amstrad can have a total of two drives.
3 Amram contains sideways ram.
4 RAM stands for ramdom-access memory.

All entries were shuffled around in a large trough, and finally the highly trained Future Publishing llama drew out four:

- **Vincenzo Vibio** of Torino, Italy, was the first name out of the bag. He gets the Megadrive – he asked for 5¼-inch. (Who says overseas readers have no fair chance in *AA* comps?)
- **RG Allan**, serving with the Army in Germany, receives an Amdrive, which will sit neatly on top of his Amstrad's built-in drive.
- **Jason Hamlin** of Parslow, Bucks, wins the Amram II, containing 32k of ram and sockets for four roms.
- And **AP Freeman** of Rodington, near Shrewsbury, wins the original Amram with 16k of ram.

AA small ads

For sale

6128 system, colour and mono monitors, RS232, stacks of software: languages, applications, games on disk and cassette. Technical manuals and books. £400. Won't split. ☎ (0409 23) 444 weekends or evenings if lucky.

Mahjong stock clearance. *Amstrad Action* overall rating 70%, September 1986. Full instructions. £1.50 inc p&p while stocks last. Cheque or PO to: Liffsoft, 52 Garretts Green Lane, Yardley, Birmingham, B26 2HP.

Back numbers of *Amstrad Action, Amtix, ACU, Computing with the Amstrad*. Individual copies 75p each or 20 for £10. Enclose large SAE with order. Tony Perkins, 6 Calder Close, Rosehill, Bishop Auckland, Co Durham, DL14 0RT.

Maestro stereo amplifier £25, 10 used three-inch disks £10, AMX mouse and art software £25, Rombo romboard with *Maxam, Protext, Prospell* and disk utilities on rom £60. ☎ Ian (0935) 85 0958 after 7pm.

DDI-1 interface only £25. 2k buffer for MX80 £15. ☎ Dublin (0001) 94 7552 or write to Tony Enright, "Crossfield", Firhouse Rd, Templeogue, Dublin 16, Ireland.

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Amstrad RS232C (not Pace RS232). Cost me £50, sell for £30. Guaranteed not faulty. Good for anybody thinking of going into communication era. M Mohd-Salleh ☎ 01-581 5657 or 01-581 1543.

***Bombscare* map** and playing tips. Please send letter enclosing large sae and £1 cash to Toby Mace, 5 Shires Way, Yateley, Camberley, Surrey, GU17 7SX. Hurry!!!

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Amstrad Pagemaker: 10 new fonts plus two pages of clipart. £6 on disk. Graham Paterson, 10 Lilac Grove, Dunfermline, Fife, KY11 5AR.

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6128 owners!!!!! Tape-to-disk conversions only £1 including p&p. Send original tape(s) plus a disk and £1 per tape to RP Shepherd, 32 Egerton Rd, Streetly, Sutton Coldfield, W Mids, B74 3PG ☎ 021-353 5536.

Convert your MP-1 or -2 module to give a composite video output signal for direct connection to your video recorder. Parts and instructions £6.99. AC Talbot, 18 Trelawney Parc, St Columb Major, Cornwall.

Amstrad, BBC, Commodore and Spectrum software for hire. Extensive catalogues. For more details send SAE to Software Hire, 1569 Stratford Road, Hall Green, Birmingham, B28 9JA.

Eproms programmed. All Basic or machine-code programs transferred (disk or tape), subject to copyright. £12 for the first 16k eprom and £5 per additional 16k. Same-day service. Gareth ☎ (04974) 440, evenings.

Eprom service: Transfer your software to 16k eprom. Only £8. Send sae and your details. Andrew MacPhee, 10 Bayview Crescent, Little Oakley, Harwich, Essex, CO12 5ED.

We haven't, of course, checked out these small-advertisers, so must say to readers: "at your own risk."

This new section of the magazine offers you the chance to speak directly to the huge waiting world of CPC owners – or would-be owners. Users report good results.

You can place an ad of up to 30 words for just £5. So you could use it to sell a printer or launch a user group or publicize a piece of software you've written.

One thing you *can't* advertise is the sale or swap of software you've purchased. Such ads can be misused by software pirates.

Just fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 2–7 weeks after we receive your order.)

Order form

Send to: *AA* small ads, Future Publishing Ltd, 4 Queen Street, Bath, BA1 1EJ

Please place the following advertisement in the next available issue of *Amstrad Action*

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Bottom-secret

SUBSCRIPTION SUPER GIFTS

STOP PRESS
The Easy ProSpell disk includes a dozen of the best programs ever printed in Amstrad Action, all ready to run at the touch of a button. Save hours of typing in!

Taking out a £16.50 subscription to Amstrad Action doesn't just guarantee you 12 issues of the magazine you love.

It also brings you a gorgeous piece of software completely free of charge!

For 464 owners there's Krakout on cassette, Gremlin Graphics' amazingly addictive Breakout game (an AA Rave in July).

Or, for 6128 owners, there's an AA special, a unique version of Arnor's widely-acclaimed spelling checker ProSpell. Some of the fancier features of the full version (RRP £29.95) have been removed, but Easy ProSpell still offers a lightning fast spell checking facility using the full dictionary of over 30,000 words.

You can use it with ProText or with other word-processors such as Tasword, WordStar and NewWord.

And as if that isn't enough, the disk also contains some special extras, including type-ins from past issues of AA. Overall, a pretty desirable thing to have.

So whatever machine you own, we've laid on the excuse you need. There can't be a better time to make sure you don't miss out on the Action.

FREE!

Choose either of these great gifts when you subscribe.

KRAKOUT

The cassette version of Gremlin's Rave arcade bounce-em-up. RRP is £9.95!

EASY PROSPELL

A stunning disk program which will allow you to spell-check text files against a 30,000 word dictionary.



CHEAT MODE

The Amstrad Action Collection 85-86

Now only £3.95 – save £3!!



We still have a few copies left of the publication no respectable games-player should be without. Under a single cover it gives you all the Cheat Mode and most of the game-maps printed in the first 16 issues of Amstrad Action. Literally hundreds of pokes, tips, mini-articles and maps are included. And to help you find your way around there's a special index allowing you to turn instantly to the game you need help on.

The book is built to last. It's printed on heavy-duty high-quality paper with a strong glossy cover. It looks good and we think you'll love it.

THE WORKING AMSTRAD

Now only £3.95 – save £3!!

This book is basically a cleverly-presented library of type-in programs for people who want to put their computer to good use.

Programs included are Graph, Pie-Chart, four separate clock and timer utilities, 3D Bar Chart, customised character set, high resolution designs, music, Unifile – a personal powerful filing system, Name and number dictionary, Text-ed, MultiQ, Banker and Accountant.

The working of each program is explained in detail, so you should be able to tailor them to your own requirements. And what makes the book particularly good is that each program is divided into separately explained modules – you automatically learn structured programming as you go along.

216 pages of high-quality material.

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BIG LEAGUE SOCCER 2

UNDER HALF PRICE ! – only £5.95 on disk!!

This AA Rave has to be the best football management program available on the Amstrad. It puts you in the role of a league manager and all the financial and personnel decisions that involves.

Experience the agony of sweating over your team selection and then watching your players outmanoeuvred on the pitch during the graphic highlights of each match! Or maybe you can cheer up Bob Wade by guiding Wimbledon to the top of the first division...

This game has been really hard to get hold of, but we've managed to find a couple hundred disks at a very special price, so take your chance while you can. We're over the moon about this one.

Save chaos!

MAGAZINE BINDERS

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You asked for them and now you've got them. No more piles of *Amstrad Action* cluttering up your living-room carpet and getting (sob) battered to pieces. Instead a superb, custom-built binder specially designed to take 12 copies of *AA* and preserve them in pristine condition for prosperity – and easy future reference. (You'll also never be in doubt about how much longer your subscription lasts.)

These binders look every bit as good as the magazine, and include the name *Amstrad Action* embossed in blocked Newvap Gold on the spine. Individual magazines are held in place by one of 12 wires.

Loyal readers, don't delay. Request your binder right away!



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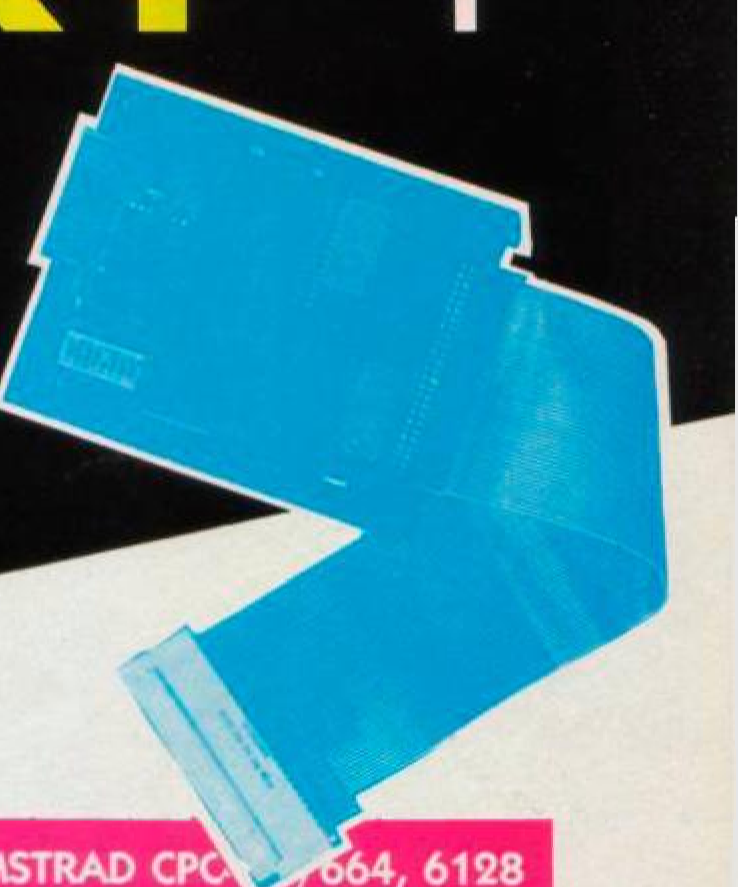
Ever wondered why you see so many computer dust covers advertised? It's because computers don't like dust. Over a period of time it can make them very ill indeed: disk drives and cassette decks in particular can suffer serious, sometimes fatal damage.

A set of dust covers provides a neat solution. And there's the added bonus of smartening up the hardware's appearance when it's not in use.

The specially-commissioned Amstrad Action covers are made from high-quality, waterproof PVC. They're coloured a gentle beige with smart blue trimming and matching Amstrad Action logo.

You can order a 2-piece set tailormade for your CPC system – just choose the correct order code from the list next to the order form.

PROTEXT + ROMBO



The ultimate word-processing combination

For Amstrad CPC 464, 664 and 6128.

PACKAGE 1 – save £15!!
- ROMBO ROM-box
- PROTEXT on ROM

Only £59.90 complete

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- PROTEXT on ROM
- PROSPELL on ROM

Only £79.90 complete

PACKAGE 3 – save £45!!
- ROMBO ROM-box
- PROTEXT on ROM
- PROSPELL on ROM
- PROMERGE on ROM

Only £99.90 complete

There is a way of achieving blinding word-processing power on an Amstrad CPC. You take the best available package, custom-written to the Amstrad's strengths – that's *Protext*. And you run it from a ROM chip plugged directly into the back of your machine. That gives two big advantages – it loads instantly, and it doesn't use up any of your RAM, so you can handle long documents in memory.

The combination is startling. You'll find you can zoom around a 50K file at lightning speed, far more effectively than on any other CPC word-processor. Formatting, copying, search and replace are all done at a pace which puts to shame more expensive packages. And the speed isn't achieved at the expense of features – *Protext* boasts a fully professional spec. We know, because we use it to write Amstrad Action.

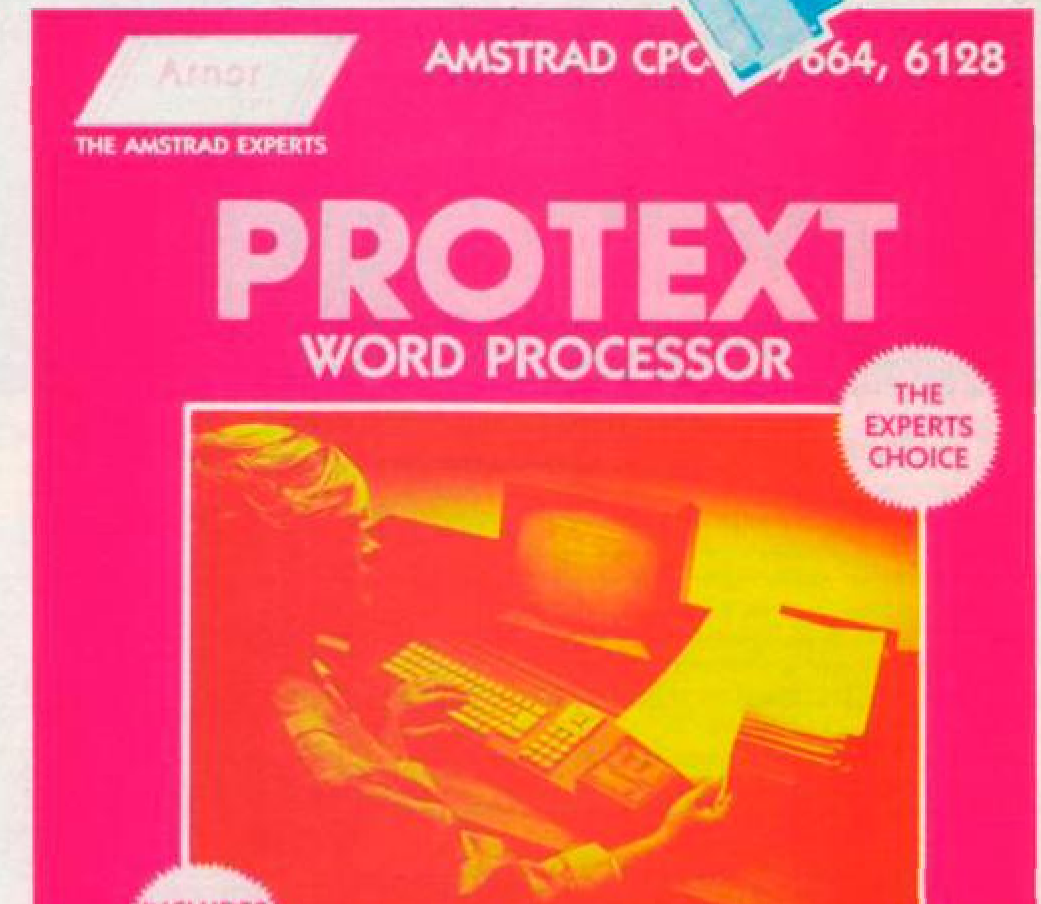
The *Rombo* ROM-board which we're supplying with *Protext* is probably the best available. It includes some clever electronics which allow you to run *any* CPC ROM on *any* of the CPC machines. And after you've fitted the*Protext* chip there's space for seven more should you get ROM-addicted. We're offering packages which also contain Arnor's superb spelling-checker *ProSpell* and mailmerger *ProMerge*.

Protext alone normally costs £39.95 on ROM while ROMBO retails at £34.95, the same price as *ProMerge and ProSpell* when bought separately. So our packages offer you a remarkable bargain. And if you'd prefer, we can also supply the software on cassette or disk at discounted prices – details on next page.

Whichever combination you choose, *Protext* is a must for serious word-processing users.

HOW TO ORDER

Use the form on the next page (the order code of the product you want is listed next to the form). Or telephone us with your credit card details on 0458-74192 (24-hour answerphone) or 0458-74011 (a human being in office hours).



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Details of these products are give

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with Easy Prospell disk	£16.50	A231
CHEAT MODE BOOK	£3.95	A232
THE WORKING AMSTRAD	£3.95	A233
HEWSON GAMES		
Exolon CASS	£6.95	A234
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Zynapse CASS	£6.95	A236
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BIG LEAGUE SOCCER 2		
Disk only	£5.95	A238
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package 1	£59.90	A201
package 2	£79.90	A202
package 3	£99.90	A203

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mer of *Equinox*
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ery addictive



WANT A THINGI?

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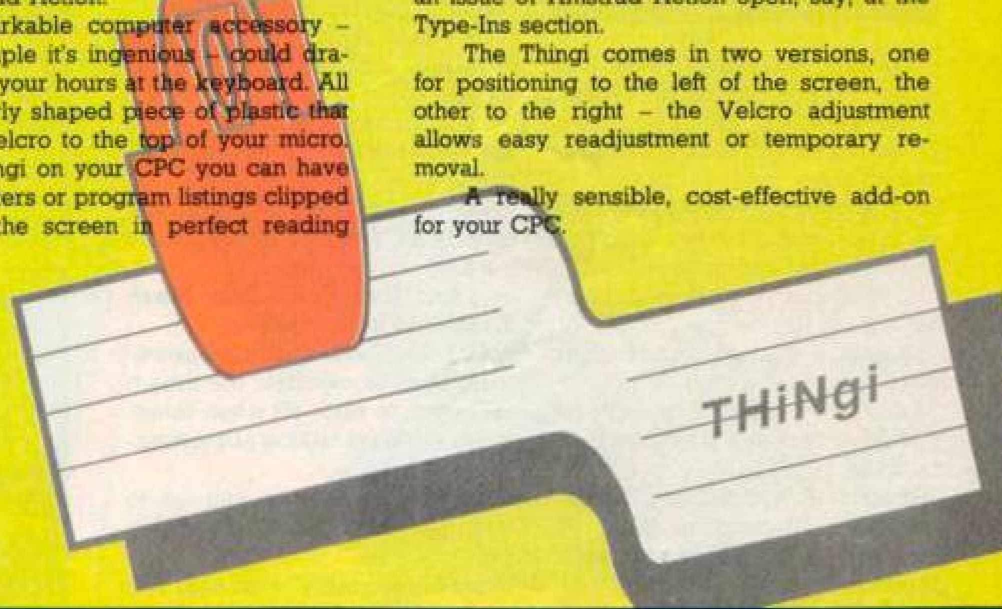
What's white, dangles papers next to your computer screen, and costs two pounds less than in the shops? Yes, a Thingi bought through Amstrad Action.

This remarkable computer accessory – an idea so simple it's ingenious – could dramatically ease your hours at the keyboard. All it is is a cleverly shaped piece of plastic that attaches via Velcro to the top of your micro. But with a Thingi on your CPC you can have documents, letters or program listings clipped right next to the screen in perfect reading position.

Any task involving copying off paper is thereby made much easier and faster. In fact, the clip supplied is sturdy enough to support an issue of Amstrad Action open, say, at the Type-Ins section.

The Thingi comes in two versions, one for positioning to the left of the screen, the other to the right – the Velcro adjustment allows easy readjustment or temporary removal.

A really sensible, cost-effective add-on for your CPC.



DISK BOX!



Only £9.95 – save £3!

This will do for your disks what an *AA* binder does for your *AAs*. Keep 'em tidy. The box is made from good-quality perspex and features a tinted, hinged, lockable lid.

It's specially designed to take Amsoft 3" disks and will hold 20 (including their cases). A classy way to keep your worktop organized.

VIDI

Save £20 on the amazing digitizer – only £69.95!

An accessory which adds a dramatic new capability to your CPC. You can use it to 'grab' pictures from a video recorder or video camera and display them on your computer screen to save, edit (using an art software package such as *Art Studio*) or print out.

Draws the crowds at all the Amstrad shows with its impressive images, which can handle colour as well as mono. And now you can buy it for £20 off the recommended retail price of £89.95.

It comes complete with connections to any CPC and with software on disk.

ORDER CODES

here and on the preceding pages

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PROTEXT on CASSETTE	£16.95	A205
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CPC 464 colour	£6.95	A209
CPC 664 mono	£6.95	A210
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CPC 6128 mono	£6.95	A212
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AA BINDER	£4.95	A217
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Access

If you own Access or Visa credit cards you can place your order by telephone at any time of day or night, seven days a week. Just dial 0458-74192 and be ready with your name and address, credit card number and expiry date, and the details of the software you wish to order. Alternatively, if you prefer a human being to an answerphone, you can ring 0458-74011 during office hours and ask for "Credit Card Orders".

REAR VIEW

Will Sugarman get the living daylights beaten out of him?

HACKING CODE II

After our own glossary of silly jargon terms last month you've come up with a few of your own. Some seemed to reflect a degree of bitterness towards a few software houses – we hope you got it off your chests. (NB: the following is a complete pack of lies.)

A Bruce of Harrow actually sent these in before our jargon appeared. Warped minds think alike, right?

"Amstrad" = Alan Michael Sugar TRADing, formerly known as Hi-Fi Lids Ltd.

"Amsoft" = a cunning ploy devised by Amstrad to palm off aforesaid hi-fi lids as computer software.

"Benchmark" = the size of the scorchmark when you overheating Spectrum finally melts.

"Load" = your baby brother tells you he's succesfully loaded a disk into your 464. Then you realize your 464 doesn't have a disk drive...

"Inkey" = wasn't he one of the *Pacman* ghosts?

"Log" = another name for the Spectrum because they both burn equally well.

"Wait" = a word so popular in the Amstrad Consumer Enquiries Dept. that they decided to include it in the Basic.

From **Paul Page** of Solihull we have these:

"Brilliant vector graphics" = the programmer can program only straight lines.

"Superb two-player game" = you have to wait your turn while a smart-alec scores 4,000,000 points.

These are from **Neil Selwyn** of West Lulworth:

"Here's what the reviewers think of it" = an extract from a Commodore mag about a completely different game.

"Very addictive" = I haven't got round to playing this yet.

"The best thing since sliced bread" = the best thing to do is eat it.

"We had a sneak preview" = we saw a screenshot from the ZX81 version.

"I blame it on Toot" = I was drunk at the time *[asholupley riggikulos – edsh]*

And lastly some from **Mark Parkinson** of Longridge:

"Baud rate" = a unit of measurement used to calculate the time it takes you to doze off when listening to someone talking about interfaces.

"Parity" = something you go to with jelly, ice-cream and a funny hat.

"Near-letter quality" = so near you can almost read it.

"Poke" = something you do to a software house (no names, no pack drill) after a naff conversion.

"Bar-command" = use this when ordering a drink.

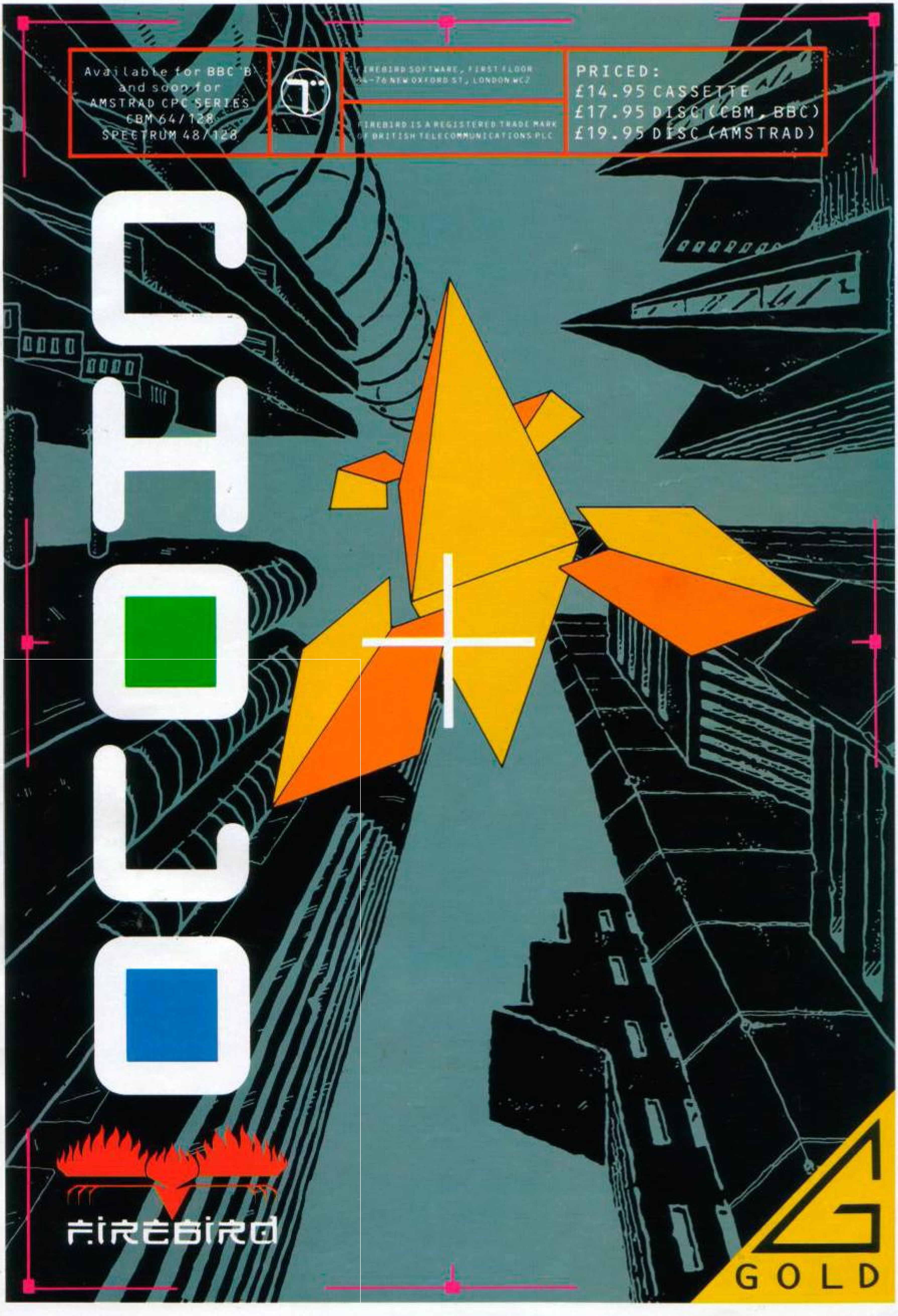


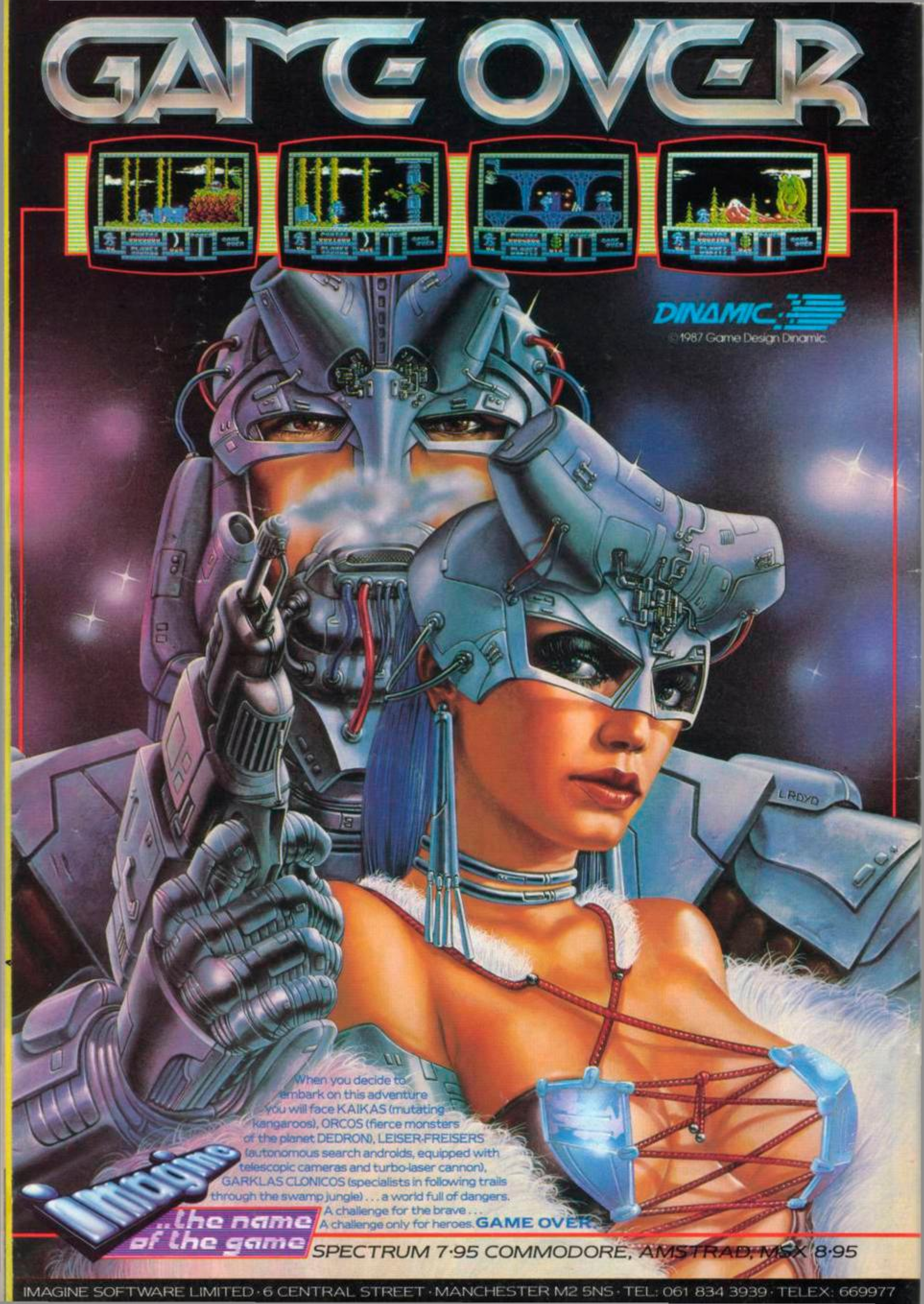
BOND-ED LABOUR

I'll bet you've been wondering what the terrible twins at Domark, **DO**minic Wheatley and **MARK** Strachan, had to do to get the licence to *The Living Daylights*. Well, now we can exclusively reveal the truth through a photo snapped at Pinewood Studios. Mark has been cleaning "Cubby" Broccoli's car (he's produced nearly all the Bond films), while Dominic has been hoovering the office and making the tea for him.






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